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WEEKLY NEWSPAPER FOR THE FARM CHEMICAL MANUFACTURER, FORMULATOR AND DEALER

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No. 7

New Insecticidal Material Announced by Health Service

**Dimethyl Dichloro
Vinyl Phosphate
Now Undergoing Tests**

WASHINGTON — A new insecticidal material, dimethyl dichloro vinyl phosphate (DDVP) has been announced by Oveta Culp Hobby, Secretary of Health, Education and Welfare. The new product, obtained through dehydrochlorination of another organic phosphorus compound, has been sent to 30 laboratories in the U.S. for testing and exploration. The insecticide was discovered by Dr. George W. Pearce, chief of the Chemical Section of the Savannah, Ga., Communicable Disease Center, U.S. Public Health Service; and Janet T. Spillane and Arnold M. Mattson, chemists.

Not yet on the market, DDVP is being produced in pilot-plant quantities by the Montrose Chemical Co. at its plant in New Jersey. Comparative costs of the material against existing toxicants have not been determined as yet.

In a telephone interview, Dr. Pearce told Croplife that toxicological studies are under way, but it will take "some time" before all the facts are gathered as to both its toxicity and its effectiveness against (Continued on page 8)

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Canadian Interests To Build Anhydrous Plant Near St. Paul

ST. PAUL—Local directors of a planned \$15 million ammonia plant to be built near St. Paul, Minn., are to be appointed towards the end of February. Robert Campbell, acting president of the recently formed St. Paul Ammonia Products Co., told Croplife that, in company with some of his associates, he will be in St. Paul shortly to complete plans. At that time it may be possible to make a more detailed announcement, he said.

Mr. Campbell, who has major interests in the Canadian chemical and constructional engineering industries, states that the initial capacity of the new plant will be 200 tons nitrate fertilizer and anhydrous ammonia, with supplies going for both agricultural and industrial use. There is room for expansion if business develops as anticipated, Mr. Campbell adds.

Construction work is expected to start in the spring on a site immediately adjoining the new refinery (Continued on page 20)

Safety Motivation Study Fund Grows

WASHINGTON—Contributions toward the Employee Motivation Study initiated by the Fertilizer Section of the National Safety Council have, to date, reached 70% of the \$3,500 goal, it has been announced by Thomas J. Clarke, G.L.F. Soil Building Service, Ithaca, N.Y., general chairman of the section.

The purpose of the study project is to secure actual field data on the learning processes, motivations, and work habits of the average fertilizer industry laborer so that training aids produced by the Fertilizer Section will have maximum effectiveness.

Mr. Clarke reports that Dr. Charles Nelson, University of Chicago psychologist who is in charge of the technical phase of the study, has already made great progress in learning about the industry.

Pesticide Tolerance Regulations to Be Effective March 6

WASHINGTON — Procedural regulations for the establishment of safe tolerances for pesticide chemicals used on food crops will go into effect March 6, the Food and Drug Administration, U.S. Department of Health, Education and Welfare, announced Feb. 9.

The regulations in their final form were published in the Federal Register of Feb. 4. They have been issued under the new pesticide amendment to the Federal Food, Drug, and Cosmetic Act (Public Law 518, 83rd Congress). Under this law, food shipments bearing residues of pesticide chemicals in excess of established tolerances will be contraband and subject to seizure as adulterated. The law will become fully effective on July 22, 1955, one year following its enactment, unless extended.

Orderly Flow of Registration Seen

**Careful Study to
Precede Applications**

By JOHN CIPPERLY
Croplife Washington Correspondent

WASHINGTON—A new stretch of super-highway over which pesticide manufacturers may proceed was opened last week when the commissioner of Food and Drug Administration announced the issuance of procedural regulations for establishment of safe tolerances for pesticide chemicals which may be used on food crops.

This new super-highway, which was originally opened at the last session of the 83rd Congress, is now fully available to the chemical industry. It may now ask for use tolerance levels for pesticide materials on food crops which heretofore have been unavailable under the previous rigid legal authority available to FDA.

Some months ago FDA ruled regarding pesticides which had been in use under informal tolerance rulings, virtually bracketing them under the (Continued on page 17)

FDA is already receiving applications for these tolerances from pesticide chemical manufacturers. These petitions are being processed according to the terms of the tentative regulations which were published Oct. 20, 1954. See page 1 of the Oct. 25 issue of Croplife.

FDA said that there are no procedural differences between the tentative and final regulations which would affect the petitions now being processed. Any actions taken in compliance with the tentative regulations will be regarded as complying with the law, FDA said.

George P. Larrick, commissioner of food and drugs, invited manufacturers of pesticide chemicals to submit their applications promptly, and promised that FDA would do everything in its power to expedite their processing. Mr. Larrick said:

"It is our desire to secure protection of the public under this new law with a minimum of litigation.

(Continued on page 8)

WITCO CHEMICAL ACQUIRES EMULSOL

NEW YORK—Witco Chemical Co., 260 Madison Ave., New York, has acquired the Chemical Division of the Emulsol Corp., Chicago, and has organized Emulsol Chemical Corp. to manufacture the chemicals which have been produced in these facilities for many years.

Continuing as president of Emulsol is Benjamin R. Harris, identified with the company since its inception. Solomon Epstein, connected with the company for many years, will serve as executive vice president. Changes in personnel or policy are not contemplated.

Witco Chemical Co., observing its 35th anniversary this year operates 12 wholly-owned or associated plants and 10 sales offices in this country and one plant and two sales offices in England. These facilities will become available to Emulsol to augment the expansion of this corporation's activities in this country and abroad, according to the announcement.

German, French Potash Imports Studied In Tariff Commission Investigation

By JOHN CIPPERLY
Croplife Washington Correspondent

WASHINGTON — This week the U.S. Tariff Commission moved into the second stage of its investigation of imports of off-shore potash supplies, this time involving imports of muriate of potash from France and Western Germany. The previous hearings involved that of imports of this commodity from Eastern Germany. (See Croplife, page 1, Jan. 31.)

In each instance, the Tariff Commission acted on advice from the Treasury Department that potash imports from all of the above sources indicated that the off-shore supplies were being sold at less than the fair

market value and consequently should be subject to such tariff duty penalties as determined by the commission to the extent that it finds U.S. producers are being injured.

As this phase of the hearings opened, the commission chairman announced that the Treasury Department had already determined that muriate of potash from the federal republic of Western Germany and France is being, or is likely to be sold within the U.S. at less than the fair market value. The function of the tariff commission, he said, is only to determine the question of extent of injury or likelihood of extent of injury to do-

mestic producers by reason of such sales.

The tariff commission is required to make its determination within three months and report its findings to the treasury department — such date would be not later than March 15, 1955.

Opening the hearings for the domestic producers of muriate of potash was Albert F. Rothwell of the New York law firm of Sullivan and Cromwell on behalf of the following domestic producers: Duval Sulphur and Potash Company, Houston, Texas; International Minerals and Chemical Corporation, Chicago; Potash Com-

(Continued on page 21)

1219 Bu. an Acre Yield Tops Wisconsin Corn Pacemakers; Dealers Hear How It's Done

MADISON, WIS.—Three members of the Wisconsin Corn Pacemakers Club posted corn yields of more than 200 bu. an acre last year, it was revealed at the annual meeting of the Pacemakers club and Wisconsin lime and fertilizer dealers, held at the University of Wisconsin Jan. 31.

Twenty two other farmers came up with yields of 160 bu. or more. Last year's high was 163 bu. an acre and top yield in 1952 was 157 bu.

Recording the high yields were Lawrence Gunnelson of Cambridge, Jefferson County, with 219.7 bu. per acre; Joe Caine of Oregon, Dane County, with 215.8 bu., and Robert Schaller of Onalaska, LaCrosse County, with 208.2 bu.

Wisconsin Corn Pacemakers Club certificates were awarded to about 500 corn-growing farmers at a luncheon during the meeting. These farmers followed the fertilizer and crop-management prescription written for them by soils and crop specialists at the university.

Prescriptions were written for more than 750 Wisconsin fields this year, soils specialists at the university report. County agents sampled yields on about 690 fields. These fields averaged 113 bu. corn per acre. Average corn yield for the state this year is about 58.

During the morning session for fertilizer and lime dealers, C. J. Chapman, Soils Dept., University

of Wisconsin, presented some "observations and recommendations that have come out of our many years of demonstrations and experimentation." They included:

"1. Starter fertilizer is important in getting a crop off to a vigorous start. Where a farmer expects to side-dress with nitrogen fertilizers, the rate of application of starter should be increased up to safe limits—250 to 300 lb. per acre where drilled—200 lb. per acre where hilldropped or checked (30% smaller application suggested on sandy soils).

"2. Where no manure is available, no clover sod to plow under, where fields are in a rather low state of fertility, we recommend liberal applications of mineral (300 to 500 lb. 0-20-20 or 0-10-30) supported with plow under or sidedress applications of nitrogen. Complete balanced fertilizer mixtures such as 10-10-10 or other high grade 1-1-1 ratios at rates up to 1,000 lb. per acre, can be plowed under or disked into the land.

"3. The application of anhydrous

ammonia, ammonium nitrate or other nitrogen fertilizer in late fall on heavy silt or clay loam soils by plowing under or cutting into fields that have been fall plowed along with mixtures such as 0-20-20 or 0-10-30 is strongly recommended."

Emil Truog, also from the university's Soil Dept., told the group that data obtained from many field experiments show that for every dollar a farmer invests in the use of lime on acid soils he gets a return in the course of several years of \$5 to \$10 in the form of increased crop yields and better quality of products.

Pat Keliher, Neuheisel Lime Works, Eau Claire, Wis., explained the changes in the Agricultural Stabilization and Conservation Program.

"The soil test requirement will to the advantage of the farmer, the limestone producer and distributor, the fertilizer people and to grassland farming and the conservation program," he said.

"The requirement that a minimum amount of fertilizer be used in order for the farmer to be eligible for assistance on lime may keep some farmers out of the program, because they don't like to be told they have to do it. It perhaps will not affect the amount of fertilizer used."

C. B. Tanner, from the university Soils Dept., talked on "Soil Compaction and Fertilizer Response." The effect of compaction upon nutrient uptake by plants is largest through decreasing aeration, he said.

When root aeration is improved, potassium, nitrogen, calcium, magnesium and phosphorus uptake is improved in that order, he told the group.

University scientists appeared at the afternoon program of the Corn Pacemakers Club. They included E. Engelbert and J. R. Love, who described results of the program in 1954; K. P. Buchholtz, who discussed weed control in corn; A. E. Peterson, who discussed alfalfa in wide row corn; J. W. Apple, who outlined control of corn insects; and Walter Beal, who told of plans for 1955.

Mr. Apple said that, in a test near the Rock-Walworth County line during 1954, "we found that yields could be increased as much as 24% by the use of an insecticide mixed into the soil prior to planting. In addition to the actual increase in yield, the protection afforded by the insecticide enabled the plants to remain erect, making mechanical picking easier."

"For the 1955 season, the University of Wisconsin is recommending 1 lb. heptachlor or 1½ lb. aldrin sprayed over the field before plowing or final disking. A less expensive procedure involves the use of ½ lb. of either heptachlor or aldrin per acre in starter fertilizer. This latter procedure is very appealing to farmers because it eliminates an additional farm operation."

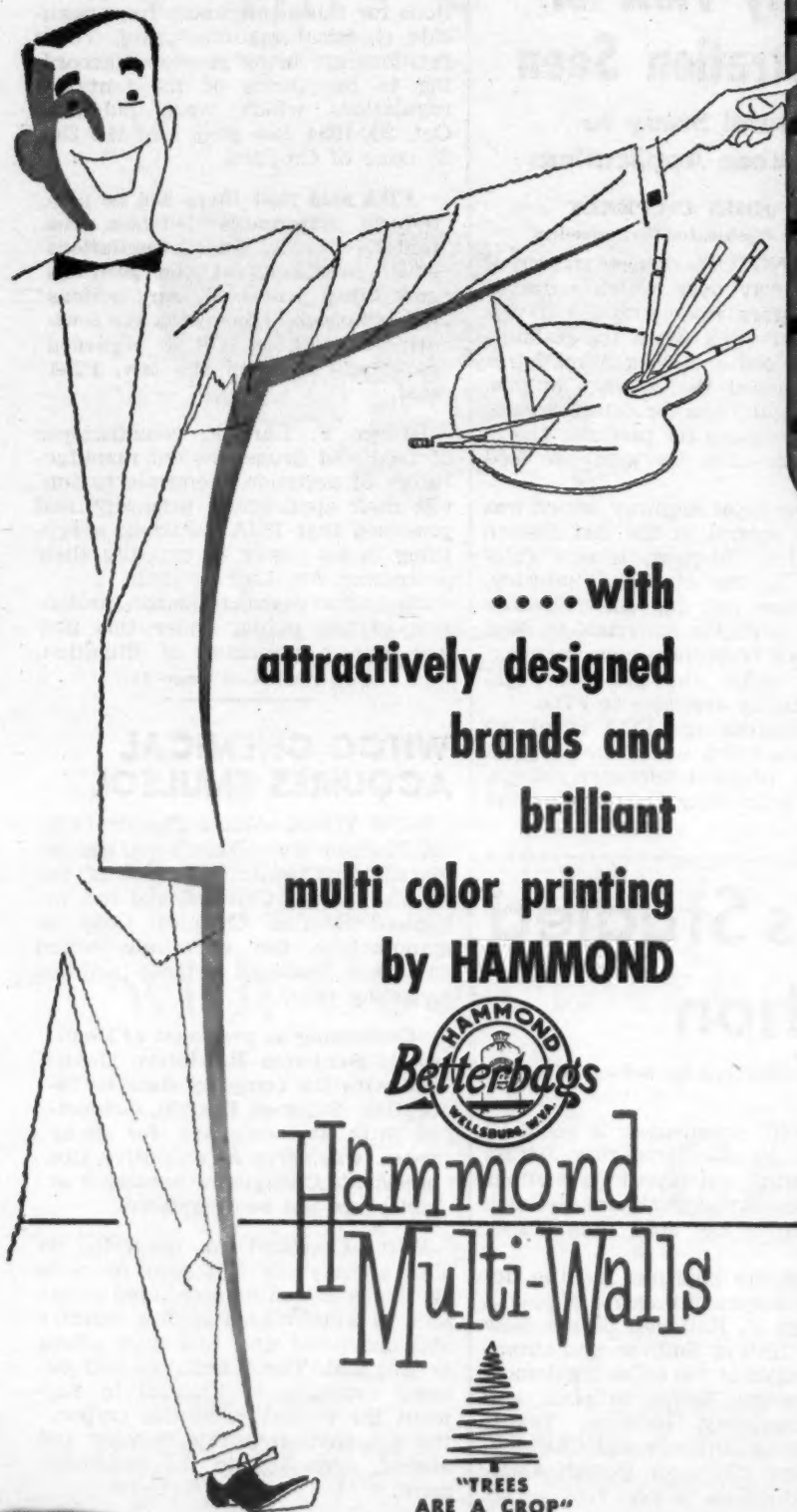
Mr. Buchholtz presented university recommendations for control of weeds in corn. He told the group that "there is probably no single factor subject to the farmer's control that will reduce yields more than weeds."

Du Pont Names Turf Chemicals Specialist

WILMINGTON—The Du Pont Company is establishing a full-time turf specialist to handle development and service work on turf applications of the company's pest control products and soluble plant food.

The new position will be filled by Robert T. Miller of North Wales, Pa. He has represented the Du Pont seed disinfectant section in the North Atlantic states for about five years. In his new position, he will cover these states and his activities will extend into surrounding states to the West and South.

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INSECT AND PLANT DISEASE NOTES

Many Grasshoppers in South Dakota's Summary

PIERRE, S.D. — South Dakota's insect history for 1954 was an important one, with armyworm and grasshoppers demanding the most attention. A summary of insect conditions in South Dakota for last year has been written by J. Lofgren for the USDA's Cooperative Economic Insect Report as follows:

"The first armyworm (*Pseudaletia unipuncta*) infestations were reported July 5. In the following 3 or 4 weeks economic infestations were found in 29 counties. Most damage was to oats with some injury to barley, wheat, corn, and flax. By end of July, damage subsided with larvae pupating.

"Moths were numerous during August but no outbreaks followed. Losses from armyworms were estimated at approximately \$190,000 and approximately 13,000 acres were treated for armyworm control.

"Black cutworms (*Agrotis ypsilon*) caused severe damage to a few late-planted corn fields in low areas in southeast counties. The European corn borer (*Pyrausta nubilalis*) early spring surveys indicated a winter survival of approximately 80%. Egg laying conditions were favorable and generally heavy first brood infestations developed. Eggs hatched during first part of July and shot hole injury was generally evident by July 10. Pupation started first of August and reached 50% in southeast counties by Aug. 14. Some eggs were hatched by mid-August.

"The second brood did not develop as severely as anticipated except in southeast counties and a small area in the northeastern part of state. Fall survey indicates average of 402.1 borers per 100 plants for counties surveyed. Highest average infestation was 1,126 borers per 100 plants in Yankton County.

"Plum curculio (*Conotrachelus nenuphar*) damage to peaches less than in past several years. Codling moth (*Carpocapsa pomonella*) first and second broods were about normal, but a third brood was troublesome during August-September in certain apple plantings in Kent County. Apple and rosy apple aphids (*Aphis pomi* and *Anuraphis roseus*) populations were present until the first week of June when a state-wide outbreak occurred, which warranted control in several orchards. European red and two-spotted spider mites (*Metatetranychus ulmi*, and *Tetranychus bimaculatus*) increased on apples and peaches during June, July and August, but were not as numerous or as injurious as in preceding season.

"An Asiatic oak weevil (*Cyrtopistomus castaneus*) caused conspicuous damage to numerous oaks in New Castle and Kent Counties in July. Yellow-necked caterpillar (*Datana ministra*) defoliated basswood in the area north of Dover. Woolly elm aphid (*Eriosoma americanum*) was common on American elm in June.

"Elm leaf beetle (*Galerucella xanthomelaena*) was very abundant and destructive on elms over entire state, especially southern half. Very little control was attempted. Japanese beetle generally less common than in 1953. Most severe damage to elms from Dover southward.

"By the first week in June a good hatch of grasshoppers (*Melanoplus bivittatus*) had occurred. *M. mexicanus* eggs were starting to hatch by June 5. Weather up until this time had been cool and unfavorable for egg development. After hatch started, however, weather conditions in

most areas were very favorable for grasshopper development. This plus other factors resulted in a general state-wide build up of infestations.

"By the end of July there were economic infestations in crop land areas in central and some western counties and local scattered light to severe infestations in legumes and field margins in eastern counties. In addition a range infestation, mainly *Camnula pellucida*, developed in a small area in the Black Hills. Conditions were generally favorable for egg deposition. The egg survey confirmed adult survey ratings in most cases. In some small areas egg survey indicated lower ratings than those of adult survey.

"Losses due to grasshoppers in 1954 were approximately \$450,000 and there were approximately 61,000 acres treated for grasshopper control. Corn earworm (*Heliothis armigera*) incidence was very high in 1954. In

some fields practically 100% of the ears were infested.

"Alfalfa weevil (*Hypera postica*) infestations were not as heavy as in 1953. Larvae were generally present in western counties by first week of June with injury evident in untreated fields. Acreage of alfalfa receiving early spring treatment for adult control increased greatly over 1953. This pest is present in economic numbers as far east as Cottonwood in Jackson County, south to the southern edge of Fall River County and north well into Butte County.

"Blister beetles caused some local injury to alfalfa in most sections of the state. Most prevalent species was *Epicauta pennsylvanica*. Clover leafhoppers were abundant in alfalfa throughout state. Potato leafhoppers were first taken May 27 in southern counties. Most severe injury was observed in western counties where drouth combined with leafhoppers to seriously reduce the second hay crop.

Most severe damage to second growth alfalfa was occasioned by the striped flea beetle in southwestern South Dakota. Average populations

of 8 per sweep in some fields. Soybeans, especially late planted fields, were injured by garden webworm (*Loxostege similalis*) in southeast counties. Some alfalfa was infested but no serious injury reported. Moths were very abundant throughout eastern counties about July 25.

"Lygus bugs were not as abundant as in previous years. Highest average infestations observed were about 7 per sweep. First nymphs were obtained by first of June. Alfalfa plant bugs were generally less numerous than Lygus except in local areas.

"Spider mites were very damaging throughout the state on many different hosts. Evergreens, mainly spruce and junipers, were sometimes damaged severely. Spring cankerworms defoliated trees, mainly American elm and apple, in several sections. Most severe damage was along the Missouri River in southeast counties and along creeks in western counties. Pine needle scale (*Phenacaspis pinifoliae*) infestations were very troublesome especially on spruce."



AN ALL-STAR LINE-UP OF SPEAKERS presented the very latest in weed control developments at the the Soreno Hotel, St. Petersburg, Fla., Jan. 17-19. Some of those appearing on the program are pictured:

Top left, from left to right, Dr. W. C. Shaw, Agricultural Research Service, the U.S. Department of Agriculture, Beltsville, Md., retiring president, is shown with Dr. G. C. Klingman, North Carolina State College of Agriculture and Engineering, Raleigh, N.C., new president.

Top, right, a panel discussion of extension weed control problems closed the meeting. Appearing on the panel were the following: W. B. Ennis, Jr., Mississippi Experiment Station, State College, Mississippi; Herbert W. Kip, Hay Fever Prevention Society, Inc., Palm Beach, Fla.; F. C. Elliott, Texas A&M, College Station, Texas; J. R. Paulling, Federal Extension Service, Washington, D. C.; R. A. Darrow, Texas A&M; William A. Balk, Agricultural Experiment Station, Blackville, S. C.; W. G. Westmoreland, North Carolina State College, Raleigh; L. C. Cowart, the Du Pont Co., Wilmington, Del.; Ruben A. Bonilla, Agricultural Extension Service P. O. Piedras, Puerto Rico;

Mr. Klingman; and E. A. Wolf, Everglades Experiment Station, Belle Glade, Fla.

Center, left, Lea S. Hitchner, executive secretary of the National Agricultural Chemicals Assn., Washington, D.C., and Dr. D. W. Colvard, North Carolina State College, Raleigh, appeared on the program.

Center, right, other speakers on the program were as follows: R. P. Upchurch, North Carolina State College, Raleigh; H. E. Rea, Texas A&M College, C. G. McWhorter, Mississippi Agricultural Experiment Station, Stoneville; E. D. Witman, Columbia Southern Chemical Corp., Pittsburgh, Pa.; and Fred C. Elliott, Texas Agricultural Extension Service, College Station.

Bottom row, left to right, Floyd Hendrix, president of the Hendrix-Barnhill Equipment Co., Inc., Greenville, N.C.; J. W. Gibson, Dow Chemical Co., Oklahoma City; H. M. Day, Geigy Agricultural Chemicals, Bayonne, N.J.; J. W. Britton, Dow Chemical Co., Midland, Mich.; L. H. Hannah, Monsanto Chemical Co., St. Louis, and W. A. Meyers, American Chemical Paint Co., Ambler, Pa.

Story on page 1, Jan. 24 issue of Croplife.

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Role of Chemicals in Western Texas Discussed at Conference

LUBBOCK, TEXAS — More than 50 scientists, agricultural experts and farmers gathered on the campus of Texas Technological College in Lubbock Feb. 1-3 for the second annual Agricultural Chemical Conference.

Theme of this year's conference was "The Place of Chemicals in West Texas Agriculture." Many outstanding speakers were present, including Dr. Russell Coleman, president of the National Fertilizer Assn., Washington, D.C.; Dr. M. W. Parker, head of the Weed Investigation Section of the U.S. Department of Agriculture, Beltsville, Md.; and Dr. H. L. Haller, assistant director of the Crops Research Division of the Agricultural Marketing Service, USDA, Washington, D.C.

Dr. E. N. Jones, president of Texas Tech, welcomed the agricultural chemical dealers, processors, distributors and manufacturers who registered the first day.

The western Texas area has not yet moved into extensive need for commercial fertilizers as older portions of the country, he said, though the trend by soil depletion is in that direction.

One of the highlights of the meeting was the address given by Dr. Coleman. He discussed the place of fertilizers in our national economy and emphasized some of the contributions which fertilizers have made to the growth of the nation.

The percentage of the nation's crops coming from the use of fertilizer, he said, has risen from 16% in 1927 to at least 25% in 1950. Proper use of fertilizer has played a major part in this advancement, Dr. Coleman was convinced, in addition to improved farm machinery, insecticides and other items.

"It is also true that fertilizer has contributed to the efficiency of each farm worker for as fertilizer consumption has moved up, the manpower required to produce our crops has steadily moved down," he said.

The increased plant food concentration in mixed fertilizers was pointed out, and Dr. Coleman said it is estimated that the plant food content in mixed fertilizers during this year will be 25.4%.

Increased yields in corn, sorghum, wheat and beef could be attained, he declared, if American farmers followed recommendations of their state experiment station.

For the future, he said it will be important not only to use more fertilizers, but to be sure that the elements are held in balance.

W. L. Stangel, dean of agriculture at Texas Tech, presented objectives of the conference. These were: (1) to provide basic soil information and determine needs to insure permanent agriculture of the area; (2) investigate and locate, if possible, the place of chemicals in the agriculture of the area; (3) present an opportunity for research workers to give their findings in connection with the use of agricultural chemicals so that those who sell to and advise consumers on their uses may have the latest information available; (4) give agricultural chemical dealers, distributors, processors and manufacturers an opportunity to present their problems to research workers and others who may be able to help find the answers; (5) take a close look at the relationship between financing of farm operations and accepted use of agricultural chemicals on the farm; (6) secure information on new fertilizers, herbicides, and insecticides; (7) bring about better understanding and cooperation between workers of all agencies relative to use of agricultural chemicals in order to en-

hance the productivity of West Texas agriculture.

The function and availability of potassium was the subject of a talk by Dr. N. D. Morgan, American Potash Institute, Shreveport, La. He pointed out that potassium is one of the major plant food elements in that it is used in large quantities by most plants. A few soils have sufficient quantities of this element but most are deficient in it, he said.

Dr. Morgan listed 15 functions of potassium. These are: (1) it is a major plant-food nutrient; (2) it is necessary for production of carbohydrates; (3) it plays an important role in the absorption of anions, such as nitrates; (4) it is essential for the reduction of nitrates; (5) it favors protein manufacture; (6) it has a balancing effect on excessive amounts of nitrogen and phosphorus; (7) it gives plump, heavy kernels in grain; (8) it encourages root development; (9) it is necessary for the development of chlorophyll; (10) it is necessary for tuber development; (11) it increases resistance to disease; (12) it improves plant vigor; (13) it tends to prevent maturity; (14) it increases drought resistance; and (15) it improves the quality of some plants.

Speaking on "Plant Nutrient Balance in Soils," Dr. J. F. Fudge, Texas Agricultural Experiment Station

chemist, warned that fertilizer must be used in connection with several other factors.

"I distinctly believe in the use of fertilizers," Dr. Fudge said, "but unless they are used under the right soil, climatic, geographical and other conditions, I don't think they will do a bit of good." He added that soil structure, texture, moisture and numerous other factors play a part in fertilizer use.

Insecticides were topics of discussion on the last day of the conference. Dr. Haller outlined the history of the chlorinated hydrocarbon group. He said various mixtures of the hydrocarbons will control insects found on the Plains if used under proper conditions, and that insect resistance is the major factor in limiting their use.

Dr. W. E. Irwin, agronomist with the Phillips Petroleum Co. of Bartlesville, Okla., declared during his talk that there is enough nitrogen in the air above a folded \$1 bill to fertilize an acre of wheat. Most of today's fertilizer nitrogen is put into the soil clay and organic matter as liquid, solid or gaseous ammonia, he added.

The chemical weed control program in the South was discussed by Dr. Parker.

Dr. A. W. Young, head of the Tech department of agronomy and director of the conference, said at the close of the three-day meet that the conference was a definite success.

New information which should be of value to chemical men

throughout the state was given and absorbed, he stated.

Several panels were held to provide the audience opportunity to ask questions of the speakers, but for the most part the conference consisted of reading of papers, and more than 20 chemical authorities appeared at one or more of the four sessions.

The conference, only one of its kind in West Texas, was sponsored by Texas Tech, the A. & M. College System of Texas, the Lubbock Chamber of Commerce and the West Texas Chamber of Commerce.

Anhydrous Distributor

OWATONNA, MINN. — Johnson's Fertilizer Co. here is installing facilities for distribution of anhydrous ammonia. The new firm is being formed by Ray Johnson, owner and operator of Johnson's Phillips 66 here.

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Spencer 6-Month Sales Dip, Outlook For Year Bright

KANSAS CITY — The first six months of the fiscal year ended Dec. 31 produced smaller sales and net profits for Spencer Chemical Co., but "the outlook for the balance of the year is good," Kenneth A. Spencer, president, announced Feb. 7.

As a result of the increased effect of seasonal demand for nitrogen products, the large nonrecurring expenses in connection with the preparation for producing and marketing polyethylene and the sharply accelerated research expenditures, results for the second quarter and six months ended December 31 were less favorable than a year earlier.

For the three months to Dec. 31 net sales were \$7,446,988, down from \$8,036,848 a year earlier. Operating expenses rose from \$4,968,558 to \$5,593,195. Income taxes were \$948,000, or \$903,000 less than a year earlier. Excess profits taxes in the 1953 quarter amounted to \$216,000.

Net income for the quarter aggregated \$905,793, equal after preferred dividends to 65¢ a share on the 1,124,855 common shares outstanding. A year earlier the net was \$1,267,290, or \$1.11 a share on the 1,002,201 average number of shares outstanding.

The 6-month operating statement showed sales of \$14,201,147, compared with \$14,453,634. Net income was \$1,566,948, or \$1.16 a common share, against \$2,135,903, or \$1.82 a common share on a smaller capitalization.

"Sales and net income for the last half of the current fiscal year should exceed those of the comparable period a year before, notwithstanding the heavy charges incident to the startup of the polyethylene plant at Orange, Texas, which will fall in the period," Mr. Spencer said.

The period of peak demand for nitrogen products has commenced and sales for the third fiscal quarter which started Jan. 1 already reflect the improved movement, Mr. Spencer said.

All of the company's major facilities, including the new Vicksburg (Miss.) Works, are operating efficiently and at full capacity, Mr. Spencer said. The nonrecurring expense of starting the Vicksburg plant, which adversely affected earnings for the last 12 months, is out of the way, he added.

At the quarterly meeting of the board of directors held Feb. 5, a dividend in the amount of 60¢ per share was declared upon the common stock of the company and a dividend of \$1.05 per share was declared upon the 4.20% cumulative preferred stock. Both dividends are payable March 1, 1955 to shareholders of record Feb. 17, 1955.

R. Andrew Jenkins Appointed to New V-C Sales Position

RICHMOND, VA.—The appointment of R. Andrew Jenkins as, assistant manager of Virginia-Carolina Chemical Corp.'s sales office in Baltimore, Md., has been announced by Cecil Arledge, vice president of the firm.

Mr. Jenkins was transferred from the Norfolk, Va., sales office, where he had served as assistant manager since December, 1952. He had previously been a salesman with V-C since 1946.

A native of Isle of Wight County, Virginia, Mr. Jenkins is a graduate of Virginia Polytechnic Institute. Prior to joining V-C he was vocational agriculture teacher at Newsums, Va. During World War II he served with the army and attained the rank of major.



Roy P. Pennington

JOINS POTASH INSTITUTE—Dr. Roy P. Pennington has assumed management of the American Potash Institute's Canadian Office in Hamilton, Ontario. This follows the retirement of E. K. Hampson, Canadian manager since the Institute was formed in 1935. Dr. Pennington returns to Canada after serving from 1949-1955 in the Agronomy Department at Pennsylvania State University. He was born in Toronto and did his undergraduate work in chemistry at the Ontario Agricultural College. Graduate work on clay mineralogy at the University of Wisconsin culminated in a Ph.D. degree in 1949.

Four Executives Named for Ketona Anhydrous Plant

WILMINGTON — The appointments of four executives to supervise operations of Ketona Chemical Corp.'s anhydrous ammonia plant near Tarrant, Ala., were announced recently by P. H. Neal, president of Ketona, a firm jointly owned by Alabama By-Products Corp. and Hercules Powder Co.

The four appointments are: Dana F. Sprague, to be works manager; Henry J. Weiland, assistant works manager; Donald G. Sentman, office manager and chief accountant, and Hursel L. Browning, workers engineer.

Construction of the new anhydrous ammonia plant, now under way near Birmingham, is scheduled for completion during the fourth quarter of this year, Mr. Neal said. Capacity of the plant is 45,000 tons a year. This is the first plant in the U.S. to use by-product coke oven gas as a raw material, Mr. Neal said.

Mr. Sprague, Ketona's works manager, has been with Hercules Powder Co. since his graduation from the University of California in 1940. He has held a number of supervisory posts with Hercules, including that of plant engineer at the company's Carthage, Mo., and Hercules, Cal., explosives plants. He was named resident engineer at Hercules in 1949 and mechanical superintendent in 1950.

Mr. Weiland, assistant works manager, has been special research engineer at Alabama By-Products Corp. for its coke oven gas anhydrous ammonia project. Earlier, Mr. Weiland had operating charge of the Lion Oil Co.'s anhydrous ammonia plant at El Dorado, Ark.

Mr. Sentman was formerly an accounting supervisor for Hercules at Wilmington, while Mr. Browning was formerly at Hercules' anhydrous ammonia plant at Louisiana, Mo.

Discussions of High Cost of Weeds Featured at Seventh Annual California Conference

SANTA BARBARA, CAL. — Discussions covering the control of weeds in various crops; herbicides to accomplish this purpose; hazards involved; technical papers; and the economics of weed control featured the seventh annual California Weed Conference here Jan. 26-27.

New officers named at the meeting were Paul Drescher, president; James Koehler, vice president; Oliver A. Leonard, secretary and Vernon L. Hall, treasurer. Mr. Drescher succeeds Lester J. Berry, University of California, as president.

A panel discussion on "What Do Weeds Cost" under the chairmanship of V. I. Cheadle, Botany Dept., University of California, Davis, opened the conference. Participating in the panel were Luther G. Jones and Loren Davis, both of the University of California; Paul Baranek, farm adviser, Madera County; Jack Major, University of California; Walter S. Ball, State Department of Agriculture, Sacramento; and Dr. Morris Jones, State Personnel Board.

In his portion of the discussion, Dr. Jones pointed out how the presence of poison oak plants in the State of California created serious hazards. He said that the incidence of injury to workmen through contact with this toxic plant totaled 3,658 in 1953, with Los Angeles county accounting for some 803 of these lost-time illnesses.

He stated that it is impossible to provide an exact statement on what the economic cost was for these injuries, but the state has estimated its average cost in such cases at \$17.61. This figure, multiplied by 3,658, comes to the total of \$64,417.38, he pointed out.

However, added to this is the cost of some 869 cases where poison oak injuries caused lost time to the workers. Figured at an average of \$15.97 daily, an average calculated by the Bureau of Labor Statistics and Research, this adds another \$13,867.93 to the total, bringing it up to \$78,285.31.

Dr. Jones continued by saying that even this is not the total cost of poison oak in California. "The over-all economic loss from human contact with poison oak must exceed the total we have arrived at since the five groups not covered by the Workmen's Compensation Act are excluded; also excluded are the sick leave benefits which employees of local and state governments may receive during a period of disability.

"Such sick leave credits are frequently used to supplement compensation payments. It is apparent that if all employed groups as well as non-occupational cases could be included, the annual economic loss from poison oak would probably be in the neighborhood of \$160,000," he concluded. Walter S. Ball pointed out some of the hidden costs involved in weed control in California. "Very few people realize the expense involved," he said. All shipments of grain, seeds, hay or any other agricultural commodities into the state in interstate commerce must be inspected. This involves the services of a number of officials as well as mileage and other overhead expense which we seldom consider as far as weed control is concerned."

Costs of plant pest quarantines and surveys run into costly figures, too, Mr. Ball asserted. He said that the cost for such activities in 1953 amounted to some \$190,858.30 in

Los Angeles county alone and the average cost for other counties in the state was around \$2000 each.

Still another factor in the "What Weeds Cost" category, is the establishment of a seed laboratory in Los Angeles, at the cost of \$22,000 a year for maintenance, not including utilities and other minor overhead expenses. "During the past year, this laboratory examined 3,256 samples for the county agricultural commissioners of the ten southern counties, 2,641 of which samples were infested with noxious weeds," he reported.

Luther G. Jones, in pursuing the weed expense subject further, brought out the costs arising from

the presence of weeds in eleven important California crops. These figures, he said, were based on estimates made by ten specialists with broad experience in crop production.

He reported that the total area of these eleven crops is 4,124,700 acres and the cost of weed control amounts to \$62,202,700 which averages some \$15.06 an acre. With 7,000,000 acres of irrigated crops grown in the state, the cost of weed control is calculated at some \$105,420,000 annually.

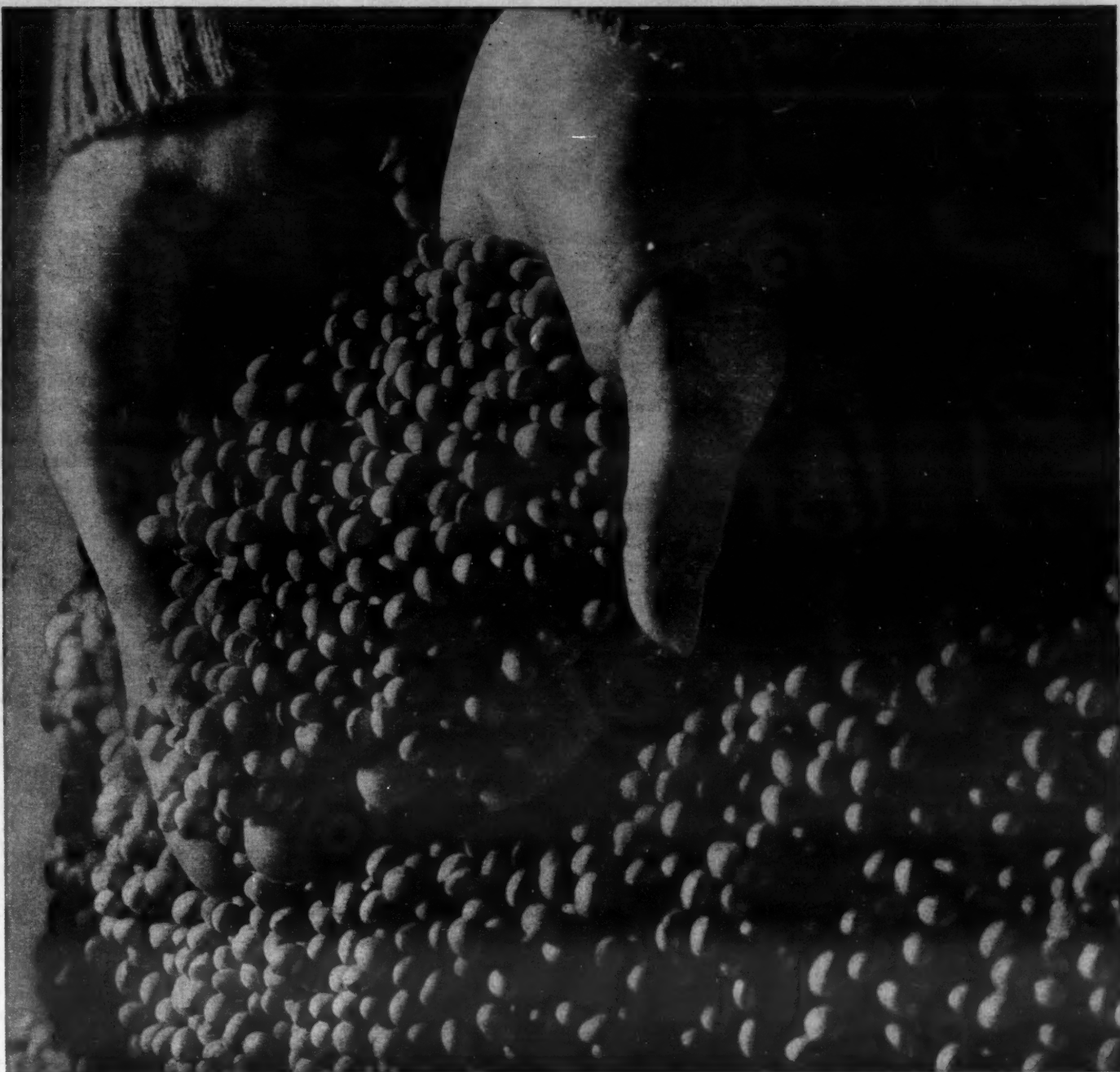
These costs are mainly those stemming from lower prices as a result of grading down, increased labor, spray materials and higher processing charges.

Reduction in yield of 5% to 10% is indicated in all crops, with the exception of orchard crops. In 1954, vegetable and field crops were valued at \$1,150,963,000 and the lowest estimate of weed damage to yield was 5% of the crop value, or \$57,548,150. Thus adding together

the cost of weed control and the loss in crop yield due to weeds, the sum adds up to \$162,968,150, he said.

In addition to losses to weeds in crops, irrigation itself suffers from the presence of weeds, according to Paul P. Baranek who spoke on the panel program. He said that California loses at least 400,000 acre feet of water annually because of weeds on and in irrigation systems.

Technical subjects covered in the two-day meeting included a discussion of formulation problems in herbicides, by Alden S. Crafts, Univ. of California; a progress report on new chemicals for control of brush, by Oliver Leonard, University of California; and a panel discussion on industrial weed control under the chairmanship of Paul Drescher. Taking part in the discussion were Vernon Hall, Chipman Chemical Co.; Harry Payne, Pacific Telephone & Telegraph Co. and Dr. Leonard.



DREAM BEAN

Production of the soybean, once a poor relation in the bean family, has risen from three million bushels in 1920 to over 200-million bushels at the present time. Probably the most versatile plant known to science, it ends up in breakfast food, candy, margarine, mayonnaise, paints, varnishes, pharmaceuticals, cosmetics and insecticides—to name a few. With the use of modern commercial

fertilizers, production of this dream bean is now reaching new highs.

Potash, an important component of these fertilizers, enriches the soil, improves crop quality, builds resistance to disease, and increases the crop yield. United States Potash Company high-grade muriate of potash has the highest K₂O content, and is free-flowing and non-caking—important advantages in the production of fertilizers that make today's soybean crops the finest ever grown.

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AT GEORGIA MEETING—Above are two scenes at the recent annual meeting of the Georgia Plant Food Educational Society, held at the University of Georgia in Athens. Top photo shows W. W. Harley, Southern Fertilizer and Chemical Co., Savannah, Ga., new president of the organization, being congratulated. From left to right are John P. Porter, Royster Guano Co., Atlanta; Mr. Harley; Loy Everette, Virginia-Carolina Chemical Corp., Albany; W. A. Higginbotham, Jr., Armour Fertilizer Works, Albany, retiring president; J. Fielding Reed, American Potash Institute, Atlanta, and Charles Ellis, Mutual Fertilizer Co., Savannah. The lower photo shows a group of agronomists from the Coastal Plains Experiment Station, Tifton, Ga., dressed as hobos for a Spencer Chemical Co. party. They are being welcomed by C. C. Murray, second from the right, dean and director of the College of Agriculture, University of Georgia. From left to right they are Earl Devane; Dr. Glenn Burton, who is "Man of the Year in Southern Agriculture"; Dr. Scotty Forbes; Dean Murray, and James Latham. For a story of the meeting see page 1 of the Feb. 7 issue of Croplife.

Rice Growers Approve Marketing Quotas for 1955 Crop

WASHINGTON — Rice growers voting in a referendum Jan. 28 approved marketing quotas for the 1955 rice crop with 90.6% voting in favor. The preliminary reports from states show 15,838 growers voted for and 1,642 voted against quotas.

As a result of the referendum the rice marketing quota program will be

in operation for the 1955 rice crop. Growers who exceed their farm acreage allotments will be subject to a marketing quota penalty equal to 50% of the June 15 parity price on the excess rice. Compliance with farm rice acreage allotments will be a condition of eligibility for price support on rice in 1955.

The national acreage allotment for 1955 has been proclaimed at 1,859,099 acres, 24.7% less than the acreage in 1954 and 11% less than the 1950-54 average.

TOLERANCES

(Continued from page 1)

We, therefore, wish to help all those who market pesticide chemicals to prepare for the new law before it becomes fully effective.

"We have estimated the number of petitions which should be filed between now and July 22 and have assigned sufficient staff to process them expeditiously. They will, of course, be handled in the order in which they are received.

"We hope it will be possible to set tolerances for all of the pesticides used on food crops in time so that it will not be necessary to take any legal actions against foods bearing residues of products for which no tolerances are effective."

Mr. Larrick also said that FDA will continue to encourage informal discussions with pesticide chemical manufacturers. The administration invites manufacturers to come and discuss their questions, both before and after the formal filing of petitions, he said.

The final form of the procedural regulations, as published Feb. 4, differs from the tentative regulations principally in the following particulars:

1. A time limit of 15 days is established within which FDA must notify a petitioner of acceptance or non-acceptance of his petition.
 2. Rewording makes it clear that a firm need submit a set of toxicity data to FDA only once.
 3. An incomplete petition may be filed if the petitioner insists upon it.
 4. A petition may be filed before a sample requested by FDA has been furnished.
 5. Rewording provides a more definite time limit for consideration of a petition or request by an advisory committee.
 6. The fee provisions of the regulation are changed to result in a more equitable assessment of the costs of the service. The total cost of the service to the pesticide chemical industry is now estimated to be slightly less than the original estimate.
- Regulations fixing tolerances for 28 pesticides that were in common use prior to passage of the new law, are still being reviewed, FDA said.

WHEAT BOOSTER

CORVALLIS, ORE.—Up to 60 lb. actual nitrogen per acre in the spring have boosted winter wheat yields as much as 25 bu. an acre, according to Tom Jackson, Oregon State College soil scientist.



THE CREATOR OF "Mr. N," Art Kraft, recently was named one of the ten outstanding young men of the nation by the U.S. Junior Chamber of Commerce. He is shown above with the original ad introducing "Mr. N," which is Spencer Chemical Co.'s trademark for ammonium nitrate. In his right hand is a cartoon featuring "Tanky," a fast-moving tank car which appears regularly in Spencer ads in industrial magazines. Kraft created Tanky two years ago. The artist is the first painter and sculptor ever to be selected for national recognition in the annual program to honor ten outstanding young men. He has been affiliated with Bruce B. Brewer & Co., Kansas City, for the past eight years.

NEW MATERIAL

(Continued from page 1)

major insect pests of agricultural importance.

Dr. Pearce emphasized that DDVP has been indicated as less toxic to man and warm-blooded animals, than some pesticides now on the market, but it is not considered to be less toxic than a number of the organic phosphorus compounds such as parathion. "We will have to wait and see what the tests show" before any positive statements can be made as to its status safety-wise, he said.

It is true that DDVP has been effective against some insects that have shown resistance to DDT, he said, but added, however, that there has not yet been time for exhaustive tests on a wide range of insects and that to state just now that DDVP will control all pests resistant to DDT, would be premature and not based on scientific fact.

Tests have been made in dairy barns where the material controlled flies known to be resistant to DDT. Other favorable indications have also been noted. Researchers have expressed confidence that DDVP may prove effective in the control of mites and aphids on certain crops.

More volatile than DDT, the new material presents less of a residue problem on plants, according to the researchers. This phase of insecticide is also being studied in current tests.

Colorado Fertilizer Meetings Scheduled

FORT COLLINS, COLO. — Colorado A and M technicians are conducting a series of district fertilizer meetings to acquaint dealers, farmers, ranchers and other interested persons with the latest information and recommendations on use of fertilizers.

The schedule is as follows: Fort Morgan, Feb. 14; Burlington, Feb. 17; Pueblo, Feb. 18; Monte Vista, March 3, and Grand Junction, March 4.

FARM PLACEMENT MEETING MEMPHIS — James P. Mitchell, secretary of labor, will be principal speaker at the National Farm Placement Conference here Feb. 14-15.

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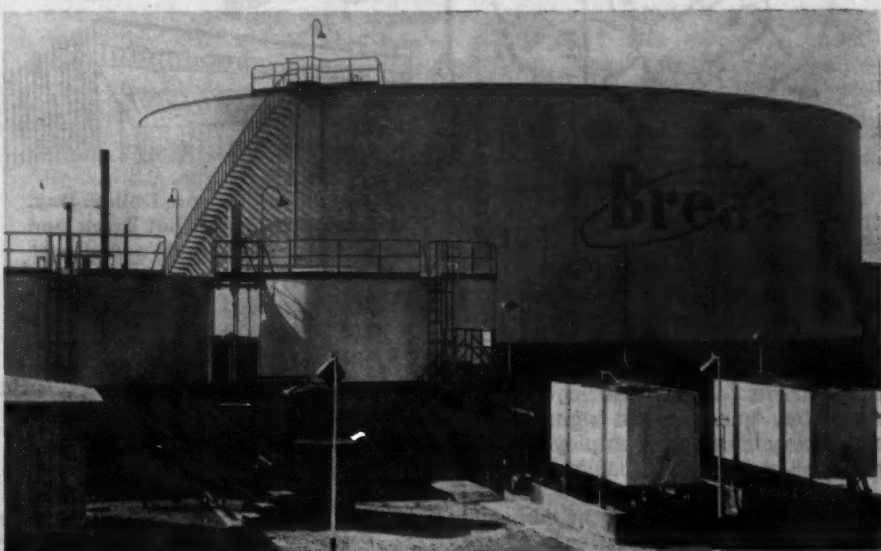
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A SPECIAL CROPLIFE DEPARTMENT TO HELP RETAILERS IMPROVE MERCHANDISING KNOW-HOW



BREA DEALER OPERATIONAL STORAGE—McCrea Seed and Chemical Co., Brea dealer in Santa Maria, Calif., maintains an operational storage of 14,000 gallons of Aqua Ammonia to provide local growers with high-nitrogen-content fertilizer throughout the year.



BULK TERMINAL AT WILMINGTON—Brea Chemicals, Inc., subsidiary of the Union Oil Company of California, maintains a 3,360,000-gallon Aqua Ammonia terminal at Wilmington, Calif., (above), one of 13 bulk terminals in key agricultural areas throughout the West Coast and in Hawaii, providing year-round availability of 24,000,000 gallons of nitrogen in solution form to growers.

Brea Chemicals Aqua Ammonia Distribution Terminals Help Dealers With Inventory Problem

LOS ANGELES — A way to lick the problem of fertilizer inventory—the dealer's constant headache in a business of extreme seasonal fluctuation in demand—is being offered by Brea Chemicals, Inc., subsidiary of the Union Oil Company of California.

The producer of Brea Aqua Ammonia has taken the inventory problem out of the dealer's hands by storing its product as a bulk solution in large-capacity distribution terminals located in key western and Hawaiian agricultural areas.

Ammonia is manufactured at Brea's new \$13,000,000 plant near Los Angeles and shipped by tank truck, rail car, ocean-going tankers and river barges to 13 Pacific Coast and Hawaiian terminals having a combined storage capacity of 24,000,000 gal.

In addition to this storage maintained by the firm, Brea dealers maintain an operational storage supply ranging from 10,000 to 90,000 gallons. This combined storage not only assures immediate fertilizer availability to the farmer, but it also provides a balance wheel for year-round production, thus avoiding transportation bottlenecks during peak-season fertilizer applications.

In 1953, Brea Chemicals established two 1,050,000-gal. Aqua Ammonia terminals in the Hawaiian Islands to supply the sugar cane plantations and the pineapple canning industry. As an important phase of Brea's distributing program, Union Oil tankships were adapted to carry Aqua Ammonia as a bulk solution to the Islands and other West Coast ports of delivery.

In California, the company maintains a 6,720,000-gal. storage at the Brea plant, 3,360,000 gal. at Wilmington, 2,310,000 gal. at Fresno, 1,596,000 gal. at Bakersfield, 1,470,000 gal. at Stockton, and 630,000 gal. at Brawley.

In Oregon, Brea operates a 3,360,000-gal. storage near Portland, 420,000 gal. at Umatilla, and 90,000 gal. at Malin. In Washington, an 840,000-gal. terminal near Seattle supplies the

Northwest pulp and paper industry, and a 630,000-gal. terminal at Pasco provides an Aqua supply for growers in eastern and central Washington.

The terminals at Hilo and Honolulu, Hawaii, and terminals at Stockton, Portland, Umatilla, Pasco and Seattle receive Aqua Ammonia as a bulk solution by over-water transport facilities. The remaining terminals receive ammonia in anhydrous form by tank trucks and rail cars. The latter terminals are equipped to convert anhydrous to Aqua before storing.

Brea officials say that with the firm's maintenance of 13 terminals and additional operational storage by local dealers within key growing areas, a farmer's fertilizer supply is always close as his telephone—regardless of seasonal or local demand.

Fertilizer Boosts Range Land Output

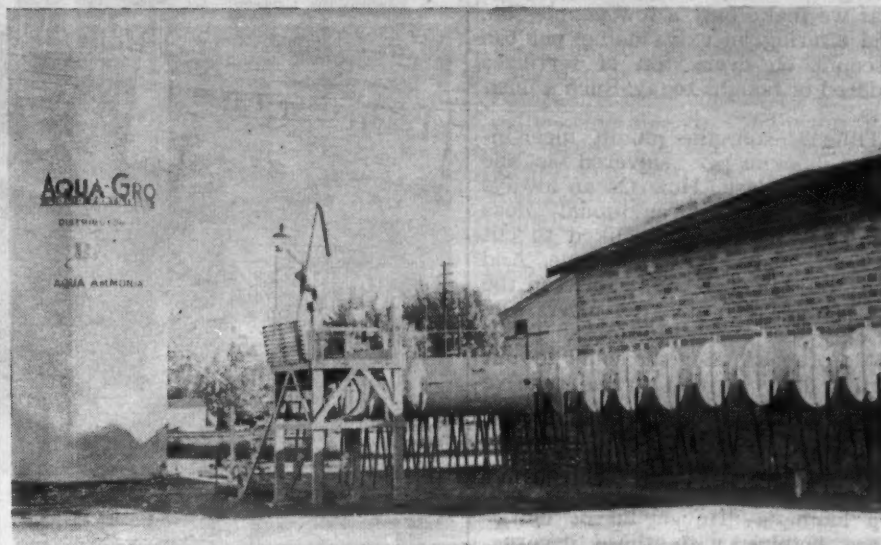
SACRAMENTO — Ten times as much feed per acre is being produced on fertilized range land on the Leon Williams ranch in the Corning Soil Conservation District as is grown on similar unfertilized range, according to Lynn Raymond, district chairman.

He reports this is the second year that Mr. Williams' 40-acre pasture has been fertilized. In 1953, approximately 400 lb. 16-20-0 was applied. Two hundred and fifty pounds was applied in 1954.

In 1953 the pasture provided 127 lb. lamb per acre while adjacent comparable range produced only 11.6 lb. Thus, the fertilized range produced \$28.57 worth of lamb per acre as compared with \$2.61 on the unfertilized tract.

When sheep were removed from the pasture, Mr. Raymond said, 60 head of long yearling heifers were grazed for 60 days which had a pastureage value of \$1.80 per head per month, or a return of \$5.40 per acre.

Deducting the cost of the fertilizer, spreading and the return from the unfertilized range, the net return per acre was \$13.61.



WASHINGTON OPERATIONAL STORAGE—Aqua-Gro, Inc., Brea dealer in Grandview, Wash., maintains an operational storage of 20,000 gallons of Aqua Ammonia to provide growers in Eastern Washington with their plant nutrient requirements throughout the year.



FIELD SIDE DELIVERY—A Brea dealer's nurse truck delivers Aqua Ammonia, a high-nitrogen-content fertilizer solution, to the grower as the grower needs it. The local dealer may handle the entire application or provide equipment for the grower's use. The tractor unit, right, applies the nitrogen solution into the soil by drill injection.

Fertilizer Produces 10-Fold Increase In Range Forage

HOPLAND, CAL.—Fertilizer applications have produced a ten-fold increase in range forage during experiments at the Hopland Field Station of the University of California here.

One application of nitrogen-phosphorus fertilizer boosted growth during the winter months, when native ranges are usually inadequate to carry ewes with new lambs. Five hundred pounds of the

mixture were applied to each acre of the test range in the fall.

Alfred H. Murphy, superintendent of this station, which is devoted to problems of north-coast sheep ranges, reports that native annual grasses, many of them unpalatable when mature, were stimulated by fertilizers to early growth. These grasses were consumed when young before they had a chance to dry out or to produce a heavy seed crop.

The more desirable, slower maturing grasses were given a chance to increase their stand. The phosphorus also increased native clover production.

Better Selling

Richer Sales Fields for Dealers

CROPLIFE, Feb. 14, 1955-10



Things were quite busy around the Schoenfeld & McGillicuddy fertilizer and farm chemical establishment that cold February morning. The local merchants association, of which Pat McGillicuddy was secretary, was staging its February Dollar Days. The newspaper had put out a special edition with a countywide coverage, Dollar Day banners and signs were up in every store and employees all wore Dollar Day coat badges.

"Dollar Day! Dollar Day!" fumed Oscar Schoenfeld, the portly, almost bald partner in the fertilizer firm. "All this fuss and bother about a sales event that I'll bet we don't even break even on. Just because Pat's secretary of the merchants' association he feels he has to put up especially good decorations. And then offering so many Dollar Day items that we make only a few pennies on. And offering an extra dollar per ton discount on every ton of fertilizer ordered or bought today. Such a business."

Tillie Mason, the plump, ulcer-inclined bookkeeper, shivered as she sat at her desk. How Oscar always fumed at Pat's promotional ideas and expenses! How he liked to cut and cut expenses to the bone. And she—the sounding board between the two men—which gave her ulcers. Oh, if only her bashful suitor, Dave, would propose. Then she could get out of this daily turmoil to the relative quiet of homemaking and child rearing.

"And Pat!" stormed Oscar, walking up and down, as employees put up banners. "He should be down here helping with these decorations, and I'll bet he's home sleeping yet."

At this moment, a middle aged man walked in the door, a package under his arm. He approached Oscar. "Some printing from the Acme Printing Co.," he said. "Pat McGillicuddy telephoned my boss last night and said it had to be here by nine o'clock this morning."

"Printing!" roared Oscar. "More expense. We didn't order any printing. We had some letterheads printed eight months ago and we've got plenty left."

The delivery man was patient. He thrust a pencil and a delivery receipt at Oscar. "It was ordered by McGillicuddy," he said.

Once more Oscar snorted and then angrily signed the receipt. The man thanked him and then departed.

Oscar tore the printing package open. "Some more darn tom foolery, I'll bet," he said. "Someday I'm gonna get so sick of this partnership—" He broke off, his mouth agape. He swallowed hard, then bellowed: "Look here, Tillie! Pat's gonna give away a free cup of coffee to every person who presents this ticket. Bad enough we have a couple of thousand dollars on the books, some of which I know we can't collect. Bad enough farmers' income is down and things look bad—and then Pat goes and spends money foolishly like this." He thrust a blue piece of printed matter toward Tillie.

Trembling, the plumpish bookkeeper took it and read it. The ticket said, "Good morning . . . A piping hot cup of coffee—free—and with cookies—awaits you at Schoenfeld

and McGillicuddy's on Dollar Day. Come up and have a hot drink and start the day right. We welcome you."

Tillie also noted that at the bottom of the coupon there was a note that those desiring free coffee should

bring this ticket with them, that the coffee was provided by a local grocer and the cookies by a local bakery. Some more copy said "Schoenfeld & McGillicuddy, the largest and best fertilizer and farm chemical store in the county—where you can get fertilizer

for a radish or a cornfield."

"Maybe I ought to hide these coupons," Oscar said. "We'll suffer a big loss giving away all that coffee. They'll just come and drink and not buy a thing. Just stand around and talk. They'll—"

"No, they won't," said Pat McGillicuddy, stepping into the office. He had overheard Oscar's pessimistic remark.

"That free coffee will build store traffic, Oscar, and when you have store traffic you're bound to make extra sales. Besides the coffee is donated and so are the cookies. All we furnish is paper cups, cream and sugar. Nora is coming down with the church urn in a few minutes. She'll help us, she said, with the coffee making and serving."

Big, new profits for

115 million messages

in farm publications in 1955 will accelerate the sales of ARCADIAN Products for Profitable Farming. Month after month, your farm customers will be reading about ARCADIAN Products in national, regional and state farm magazines.

MORE THAN 30 RADIO STATIONS

and over 1,000 LOCAL NEWSPAPERS will also carry the ARCADIAN advertising story to millions of farmers. This powerful campaign will produce MORE SALES. Will you get your share of this business?

"Such a monkey business," snorted Oscar. "Why can't we stick to selling fertilizer and collecting for it? There's lots of delinquent accounts to be collected right now, and—"

"Take a few of these and come with me, Oscar," said Pat interrupting his partner. "We'll stick them under windshield wipers in the three municipal parking lots where farmers are parking right now. That big countywide issue of the paper sure is bringing them into town, I hear."

"Me, sticking tickets under car windshield wipers," snorted Oscar, drawing himself up proudly. "I won't do it."

"All right, I'll do it alone then," Pat said, going out the door, a stack of the tickets under his arm.

Oscar was kept quite busy the rest of the day. Farmers soon came to

claim their free cups of coffee and some cookies, and they began seeing things to buy. That meant a lot of bookwork for Oscar and Tillie.

Oscar was so busy, in fact, he didn't have time to sharpen his six pencils more than once. Actually, some farmers even paid up old accounts, throwing jibes at Oscar about what prompt payers they were, and then winking at each other.

At the end of the day, when things quieted down somewhat, Pat said elatedly: "Well, Oscar, it was a swell sale. Lots of farmers in town and lots of them came in here. I'll bet that free coffee pulled in a lot of them. On this nice cold day, they couldn't resist free coffee—just as I figured."

But Oscar said nothing. He just

got up from his desk, put on his coat and hat at quitting time and strode out the door. He closed it a little harder than usual for the windows rattled.

Pat chuckled. "I'll bet," he said to Tillie and his wife, "that Oscar was so busy checking sales tickets and filling orders today he didn't have even one minute to figure costs. He won't sleep tonight because of that, begorra."

"Oh, Pat," Nora said charitably, "Be a little easy on him. You need someone who holds you back once in a while."

"Ah, a woman with a heart of gold," said Pat with the Irish brogue. "I love that, I do." And he kissed her, while Tillie sighed and wished that bashful David—

Tests Show Value Of Mixed Fertilizer In Rice Production

SAN MARINO, CAL.—California's important rice crop is benefiting from recent fertilizer experiments, according to the California Fertilizer Assn., which points out that in the past fertilizer has been broadcast or applied with irrigation water in most cases.

Recent experiments in other methods of application, notably by drilling fertilizer under the ground surface into the root zone, have shown the benefits to be derived from the use of complete, balanced fertilizer for maximum production of rice in some soils, assuring the farmer a larger net profit from his investment and efforts, according to the association.

Dr. D. S. Mikkelsen, assistant professor of agronomy, University of California, in reporting on five years of fertilizer research in which broadcast application was largely employed at the University of California Rice Experiment Station at Biggs, reports that nitrogen produces the greatest return, the major yield increase following fertilization at seeding time.

However, Dr. Mikkelsen reports response to phosphorus and says "phosphorus fertilization has not heretofore been considered economically profitable in producing good rice yields. Current experiments indicate that with proper application methods yields can be increased. Equally important is the fact that where phosphates influence yields, it also gives greater seedling vigor, better tillering, and slightly earlier maturity."

The association points out that good results have been obtained through application of complete mixed fertilizers in some rice production areas, and cites a recent article in Farm Management which reports on the exceptional results obtained by W. J. Duffy of Woodland, Cal.

He experimented with a number of fertilizer formulas consisting of complete fertilizers and nitrogen-phosphate combinations, together with rates of application during the 1954 crop year. He planted the seed 4 in. deep, with the fertilizer drilled in to a depth of 5 to 6 in.

The following chart reports on yields, percentages of increase and gross dollar gain over the unfertilized plot.

Rice Responses to Fertilizer Applications					
Fertilizer	Amount per acre	Yield in pounds per acre	% Increase	Gross gain @ \$4.50 per sack	
4-20-4	150	4,727	12.31	\$23.31	
4-20-4	300	4,694	11.52	21.83	
10-20-0	150	4,648	8.05	15.26	
20-6-0	100	4,524	7.48	14.18	
16-20-0	120	4,640	10.24	19.40	
4-12-4	150	4,234	.59	1.13	
Check plot	None	4,209	

New Mexico Youth Makes Projects Pay

ANTHONY, N.M.—Rudy Provencia is one boy who has made his high school agricultural work pay off handsomely. This last year his income from a few small projects netted him \$1,700. On the small farm of his parents, Rudy carried on several experiments which attracted the interest of farmers up and down the valley.

On a cotton spacing plot he found that plants spaced 8 to 12 in. apart produced better than when planted only 4 in. apart.

He tried several kinds of fertilizers on small plots of cotton. At the end of the year he found that every dollar spent for fertilizer brought a net return of \$3.80.

ts for YOU on the FAST-MOVING ARCADIAN LINE!

The Biggest Advertising Campaign in the history of the fertilizer industry will be working for you this year, if you handle the ARCADIAN line. Big, colorful advertisements in many leading farm magazines, steady farm radio promotion, and local newspaper advertising at the peak of the fertilizer buying season... never before has any fertilizer company given their dealers such a tremendous advertising boost. ARCADIAN is spending big money to help you make more sales and more profits.

Fast-stepping changes in agriculture are bursting the seams of old-line selling to farmers. ARCADIAN

fertilizer products are as modern as tomorrow's agriculture. New and better fertilizers and new and better equipment for applying them faster at lower cost are building a big, new market among your customers. ARCADIAN advertising is helping you to capture this market, if you handle the modern ARCADIAN line.

Arcadian®

TAKE ADVANTAGE of this great, new sales opportunity. Mail this coupon NOW!

- ☐ UREA 45 Fertilizer
45% Nitrogen Pellets
- ☐ 12-12-12 Granular Fertilizer
- ☐ American Nitrate of Soda
Improved Granular
- ☐ A-N-L® Nitrogen Fertilizer
Pelleted
- Nitrogen Solutions**
- ☐ Non-pressure
URAN® and FERAN®
- ☐ Low-pressure
NITRANA® and URASOL®

*Trade-Mark

NITROGEN DIVISION Allied Chemical & Dye Corporation
40 Rector St., New York 6, N. Y.

Please provide me full information on the products I have checked at the left.

☐ Please have an ARCADIAN salesman call on me.

NAME _____

FIRM _____

ADDRESS _____

CITY _____

STATE _____



Mr. Dealer--Cut out this page for your bulletin board

BUG OF THE WEEK



Mexican Bean Beetle

How to Identify

The adult bean beetle is roughly a quarter-inch in diameter (across) and is brownish in color with spots on its back. It usually overwinters in the adult stage, usually in woodlands near bean fields.

Habits of Bean Beetle

After overwintering in woodlands, they leave these quarters in the spring and the female beetles lay their eggs on the underside of bean leaves. These eggs hatch in 5 to 14 days into larvae that feed mostly on the under side of the bean leaves. These larvae grow rapidly passing through 4 stages, each stage larger than the preceding one. They reach full growth in from 20 to 35 days. The full-grown larva attaches itself to the under surface of the leaf on which it has been feeding or to some nearby plant or object and changes to the pupa, or inactive stage. After 10 days or so, the adult beetle emerges from the pupa. Within 2 weeks, the female beetle is ready to deposit eggs for another brood.

Damage Done by Bean Beetle

As suggested by its name and as illustrated in the above cartoon, the beetle skeletonizes bean leaves by feeding on them. It stunts growth of the plant and causes considerable losses in vegetable-growing areas.

Control of Mexican Bean Beetle

Since the bug infests the under side of bean leaves, the problem of reaching it with pesticidal materials is complicated. For this reason, USDA says, spraying has given better results than dusting. Materials recommended in various states include Methoxychlor, 2 lb. 50% wettable powder in 100 gal. water; or sprays of derris or cube (4% rotenone content) at rate of 1½ lb. to 50 gal. Cryolite in dust form is used at the ratio of 3 lb. cryolite to 2 lb. diluent (finely ground talc or sulfur). The first application of either spray or dust should be made when Mexican bean beetles are found in the field or when eggs become numerous on the under side of leaves. Application should be repeated frequently if the insects are numerous.

Cartoon of Mexican bean beetle furnished Croplife through courtesy of E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

Previous "Bug of the Week" features are being reprinted in attractive 24-page booklet, priced at 25¢ single copies; reduced rates in quantities. Write Croplife Reprint Dept., Box 67, Minneapolis 1, Minn.



Farmers time that dangerous fr erosion. Th fallow less erosion. But stubble-mul need for a

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"Best r to work v her," say farmers t to decrea a field w working too wet. increase soil. Well

Better Selling

Richer Sales Fields for Dealers



FARM SERVICE DATA

Extension Station Reports

Farmers have believed for some time that clean-fallowed land is dangerous from the standpoint of soil erosion. They figure stubble-mulch fallow lessens moisture loss and erosion. But the greatest drawback to stubble-mulch farming has been the need for a weed-control method.

On stubble-mulch land where weeds were chemically controlled, soil took up an inch and a half of rainfall in a 1-hour test in Wyoming. That compared with plowed ground that took in an inch and a quarter an hour. Clean cultivated land held less than an inch.

The chemical stubble-mulch took in almost an inch of water during the last half hour of rainfall. That was 216% more water than the plowed ground and 250% more than the clean-tilled plot.

The same trend continued in favor of the chemical-stubble fallow treatment over a 2-hour period.

Wyoming agronomists used Dalapon and 2,4-D in their experiments—Dalapon at the rate of 5 lb. an acre in early spring with spot treatments later, and 2,4-D at the rate of 3/4 lb. an acre three times during the season. Dalapon controlled grassy weeds and 2,4-D the broadleaved weeds.

Research workers used simulated rain conditions amounting to about 2 1/2 in. an hour. The work was carried on by O. K. Barnes, Sheridan substation superintendent, and D. W. Bohmont and Frank Rauzi of the Agronomy Department in the College of Agriculture of the University of Wyoming.

★

Good housekeeping in the storage bin is a must for grain sorghum, warns Dr. J. N. Roney, extension entomologist for the University of Arizona. If farmers didn't clean out the bin or spray it good before storing the sorghum grain, there's a good chance of stored grain pest trouble this winter.

Dr. Roney advises farmers to inspect storage bins at least twice a month, and for pests like weevils, flour beetle, Angoumois grain moths, or other insects to use a good fumigant.

★

Soil compaction some day may rank with erosion as a factor limiting crop production, says Jack H. Barton, extension soil and water conservationist, Texas A. & M. College System. Land used for intensive cultivation and grazing is in greatest danger.

Compaction of the soil, says Mr. Barton, begins to limit crop production when the soil particles are pushed together so closely the movement of air and water through the soil is restricted. Plant roots upon reaching the compacted layer—or hard pan—begin to grow in a lateral direction.

"Best remedy for this condition is to work with nature and not against her," says Mr. Barton. He urges farmers to simplify tillage operations to decrease the number of trips over a field with heavy equipment. Avoid working or grazing fields that are too wet. A good rotation system will increase the organic content of the soil. Well-fertilized, deep rooted crops

will help crack the hard pan, Mr. Barton says.

★

Orchardists in the vicinity of Kelseyville, Cal., have been warned by John Smith, farm adviser, to prune cankers and over-wintering gum deposits containing bacteria resulting from blight which affected apple trees last season.

The bacteria, *Phytophthora amylopera*, which causes fire blight in apples, is spread to the blossoms of pear orchards in the spring by splashing rain or insects.

Apple trees should receive the same copper blight control sprays and dusts each spring as are given

the pears, according to Mr. Smith. Old apple trees in poor condition or in areas where they are neglected should be destroyed.

★

Latest information on the use of fertilizers is available to Arizona farmers in a revised University of Arizona Extension Service circular, No. 206, Fertilizer Recommendations for Arizona. The new circular gives information about fertilizer labels, fertilizer needs per acre, and specific recommendations for the use of commercial fertilizers in Arizona.

★

Crops will have more water to help build higher yields, if soil has a regular turnover of active organic matter.

The California Fertilizer Assn. points out that rotting organic matter improves the soil structure and makes it more porous. Water percolates in more easily, instead of running off, or ponding on top.

In this soil building process, millions of tiny, invisible microbes play an important part. As they feed on

organic matter and break it down, they produce a gummy, jelly-like substance. This sticky material glues tiny soil particles together into clusters or aggregates. These aggregates, in turn, increase the size of the soil pores and allow more water to enter. As organic matter rots crop-feeding nutrients are released. More soil phosphate is made available to growing plants. It helps increase the efficiency of the fertilizer you add to the soil.

The soil organisms need nutrients to do their soil building job. Thus the fertilizer has to feed the soil organisms as well as the crop. That's particularly true where crop residue is plowed under. To break these raw materials down into humus, the organisms need extra nitrogen. If the supply is deficient, crops will suffer.

The association points out that plowed-under deep rooted legumes and other crop residues are good sources of organic matter. When these legumes are well fertilized, their roots add important nutrients to the soil. Moreover, fertilizer helps grow more crops per acre.

Now Available!

AMNICAL

(AMMONIUM NITRATE LIMESTONE)

20.5% Nitrogen Double Duty Plant Food

Made in Italy

AMNICAL contains 20.5% nitrogen which will result in higher-than-ever yields of protein rich crops of all kinds.

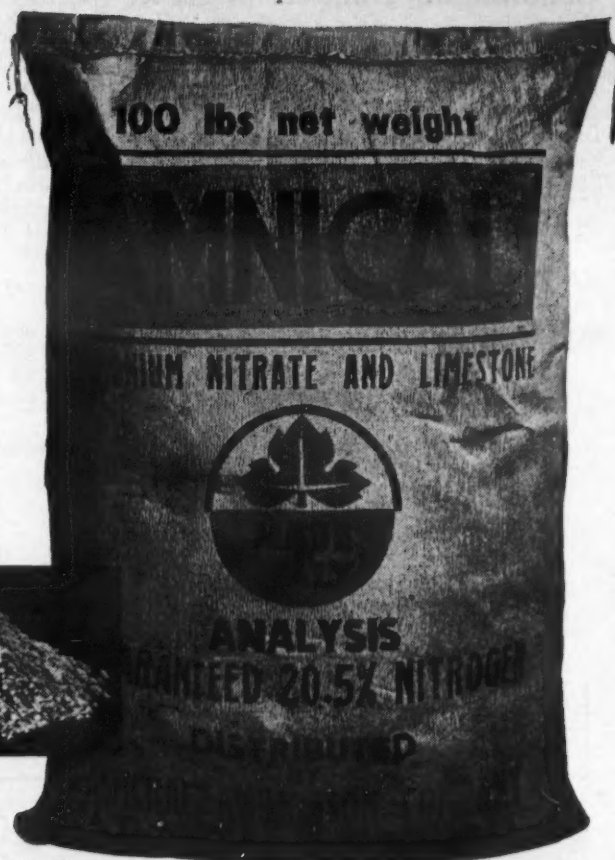
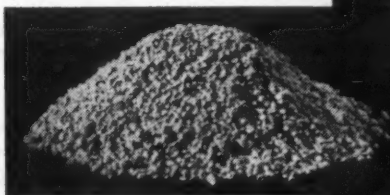
AMNICAL contains about 40% Calcium Carbonate with Magnesium Carbonate.

AMNICAL'S nitrogen is in approximately one-half nitrate form making it quick-acting and immediately available to growing crops.

AMNICAL'S nitrogen is in approximately one-half ammonia form—resistant to leaching, slow but steady-acting, gradually feeding the crop throughout the entire growing season.

AMNICAL'S white color is your guarantee of the purity of the raw materials employed in its production.

Amnical is manufactured in a solid white pellet form to assure easy handling, free flowing, and resistance to moisture.



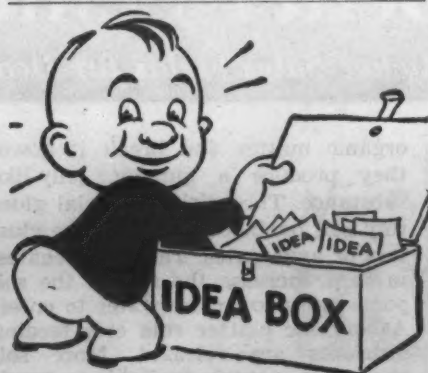
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What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 6199—Alkylanilines

Two alkylanilines, available in pilot plant quantities, have been added to the group of nitrogen petrochemicals made by Monsanto Chemical Company's Organic Chemicals Division. The new compounds are alkylaniline C-5, with an average of five carbons for the ring-substituted alkyl group, and alkylaniline C-12, a mixture in which the alkyl group averages 12 carbons. Technical data sheets prepared by the company, which may be had on request, suggest that the chemicals be evaluated as intermediates for use in agricultural and other industrial applications. To secure additional information check No. 6199 on the coupon and drop it in the mail.

No. 6200—Moisture Measurement

New literature on the product called Irrigage, a soil moisture measurement system, has been produced by the Rayturn Corp. According to one of the folders issued by the company, this instrument can be "quickly installed and used on any irrigated farm, large or small, without special training." The folder cites the dangers of under-irrigation and over-irrigation. The system involves the use of Irrigage Gage-Stakes which consist of four active cells, placed at 6-,

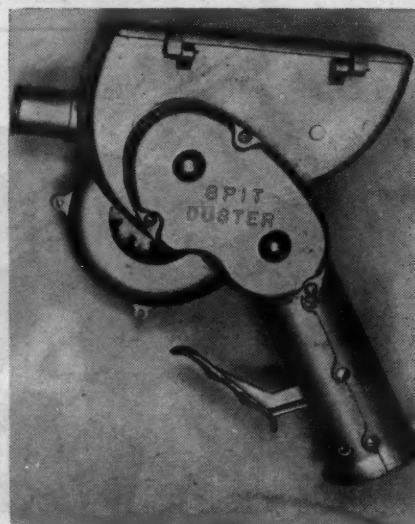
12-, 18- and 24-in. levels. The cells are made of gypsum which becomes wet or dry as the surrounding soil. The folder suggests that these stakes be placed in each separate crop and in each separate soil type. The Irrigage meter connects to the stake and a selector switch permits readings to be taken at all four levels in less than 30 seconds. Daily readings are suggested. To secure more details about this system check No. 6200 on the coupon and drop it in the mail.

No. 6201—Insecticide

A new insecticide for controlling house flies and other insects has been announced by Carbide & Carbon Chemicals Co., a division of Union Carbide and Carbon Corp. It has been given the name "cyclethrin" and is chemically related to allethrin. A company announcement states that "Cyclethrin is synergized by readily available synergists to a far greater extent than is allethrin. Therefore, it can be used to advantage in oil space sprays and in low-pressure aerosols for use against house flies, gnats and mosquitoes. Cyclethrin is more effective when used in dairy and livestock sprays. Field tests have shown that treadle spray concentrates containing cyclethrin afford dairy and beef animals excellent protection from horse flies. In addition, sulfoxide and piperonyl butoxide synergizes cyclethrin

better than allethrin for knockdown of German roaches. Cyclethrin has the same low order of toxicity to warm-blooded animals as allethrin or pyrethrins."

The product is available at the present in limited quantities for test purposes. To secure more complete details check No. 6201 on the coupon and drop it in the mail.



No. 6202—Hand Spit Duster

A new insecticide spit duster which can be operated with one hand, leaving the other hand free to move foliage or to hold plants, is available through the distributors of Raw Materials Trading Co. The dust projection distance is 12 ft., and the duster holds 5 1/4 oz. of material equal to 7 min. of dusting. The weight of the duster, which will find its use among home gardeners, nurserymen, and others, is 5 1/4 lb. To secure more complete details check No. 6202 on the coupon and drop it in the mail.

Also Available

The following items have appeared in the What's New section of recent issues of Crop-life. They are reprinted here to help keep retail dealers on rotational circulation informed of new industry products, literature and services.

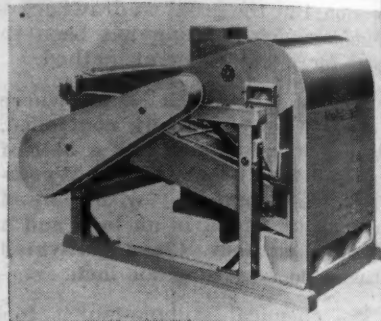
No. 5070—Bulk Transport

Now available is Baughman Manufacturing Company's bulk transport body, called by the trade name, Bulk-mobile, which has a capacity of 780 cu. ft. Other models are available in lengths from 15 ft. to 33 ft., with body sides up to 36 in. high. Feeds, fertilizer and many other diverse materials can be transported, states the company. Discharge rates vary from 1/2 to two tons per minute, depending on the weight of the material. Four discharge attachments are available: 1. Screw conveyor; 2. belt and bucket elevator; 3. belt conveyor, and 4. distributor for spread-

ing purposes. Among the body's features are full hydraulic operation for both body conveyor and discharge accessories, compartmented body for multiple deliveries, externally operated compartment doors and streamlined, all welded body with large heavy-gauge body hatches. To secure more complete details check No. 5070 on the coupon and drop it in the mail.

No. 5067—Grain and Seed Cleaner

Thomas Robinson & Son, Ltd., announces the production of a dual purpose cleaner, type PDM, offering high capacity at low power consumption. As a pre-cleaner the capacity is 15 tons an hour and five tons as grain and seed cleaner. The man-



ufacturer states that the machine is highly adaptable. It can be installed in any building, with one or several floors. Feed can be directly from bin, through spouting, or by elevator while power can be from an in building motor, line shaft. To secure more details check No. 5067 on the coupon and drop it in the mail.

No. 5063—Broadcaster

The Farmer Feeder Co., Inc., has designed its new Farmer electric broadcaster so that it can be mounted on a tractor (front or rear), truck or jeep. It operates off any 6-volt battery. According to the manufacturer, this broadcaster evenly dis-



tributes all varieties of seed (including Brome), sowing up to 20 acres per hour and covering areas up to 30 ft. wide. Push-button operation is made possible when the unit is drawbar mounted. Only three bolts and single wire are used to mount the unit, ready for operation. All motors are sealed against dust and, in addition, are factory lifetime lubricated. To secure more complete details check No. 5063 on the coupon and mail it to this newspaper.

No. 6198—Fungicide Booklet

A new booklet describing the orchard fungicide, called Phygon XL, for treating apple-scab, blossom blight, brown rot and cherry leaf spot, has been published by Naugatuck Chemical, Division of U.S. Rubber Co. The booklet, titled No. 32, contains information about Phygon formulations, dust application on fruits such as apples, cherries, peaches, prunes and plums and spray applications on these same fruits. General information on handling the product, its composition and advantages are also included. Check No. 6198 on the coupon, clip and mail it to receive the booklet.

Send me information on the items marked:

- | | |
|---|--|
| <input type="checkbox"/> No. 3661—Sales Leaflet | <input type="checkbox"/> No. 6194—Mixer Catalog |
| <input type="checkbox"/> No. 3662—Ad Reprints | <input type="checkbox"/> No. 6196—Bag Valve |
| <input type="checkbox"/> No. 5063—Broadcaster | <input type="checkbox"/> No. 6197—Brochure |
| <input type="checkbox"/> No. 5067—Grain Cleaner | <input type="checkbox"/> No. 6198—Fungicide Booklet |
| <input type="checkbox"/> No. 5070—Transports | <input type="checkbox"/> No. 6199—Alkylanilines |
| <input type="checkbox"/> No. 5083—Pulley | <input type="checkbox"/> No. 6200—Moisture Measurement |
| <input type="checkbox"/> No. 5084—Indicator | <input type="checkbox"/> No. 6201—Insecticide |
| <input type="checkbox"/> No. 5091—Heating Tape | <input type="checkbox"/> No. 6202—Spit Duster |
| <input type="checkbox"/> No. 6191—Dispenser | |

NAME

COMPANY

ADDRESS

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS
PERMIT No. 2
(Sec. 34.9,
P. L. & R.)
MINNEAPOLIS,
MINN.

BUSINESS REPLY ENVELOPE

No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

Croplife

P. O. Box 67,

Reader Service Dept.

Minneapolis 1, Minn.

No. 6191—Rodent Poison Dispenser

The Solvit Chemical Co. has announced new developments in its product called by the trade name, Solvit's "See-In" Rodent Cafeteria. The unit holds one quart of liquid poison, 6 lb. of dry poison or both at one time. An inspection window permits ease in checking bait consumption. The unit is 7½ in. high, 12 in. wide and 12 in. long. It can be attached to the floor. Constructed of galvanized steel, the unit has a bottle preventing spillage on the floor. For more complete details check No. 6191 on the coupon and mail it to this newspaper.

No. 3662—Ad Reprints

Transichrome Co. has available new literature on its full color transparent process which explains a new special introductory offer and quotes reduced rates for quantity copies. These transparencies are made from actual reprints, tear-sheets or any other printed matter with full color fidelity, the company states. Shadow box, pocket, cord and plug for point-of-sale display are also available. Certain changes in copy are possible with this method, it is explained. To secure more complete details check No. 3662 on the coupon and drop it in the mail.

No. 3661—Sales Leaflet

A four-page leaflet, listing 25 "ideas to help make more sales," has been developed by Kelly-Read and Co. Copies of the leaflet are offered at no cost. They cover such points as: planning your working time; the importance of the first minute with the customer; making yourself understood; asking for the order, and keeping promises. To secure the leaflet check No. 3661 on the coupon and drop it in the mail.

No. 5083—Magnetic Pulley

The Homer Manufacturing Co., manufacturer of the Homer Heres permanent magnetic pulley, describes this product's applications and features in a new illustrated 8-page bulletin, PY-260. These pulleys automatically remove tramp iron from sands, chemicals and other materials, and separate ferrous from non-ferrous materials, the bulletin states. The bulletin includes diagrams, performance data, specifications and guide for selecting proper size. To secure the bulletin check No. 5083 on the coupon and drop it in the mail.

No. 5084—Level Indicator

A descriptive folder about a level indicator called Bin-Vue has been prepared by its manufacturer, Continental, and is available without charge. The folder contains construction diagrams, photographs, descriptions and price information about four models. The four are the standard, heavy duty, explosion proof and high temperature models. The indicator is suitable for powdered, granular, lumpy and wet materials and slurries, the folder states. To obtain the folder check No. 5084 on the coupon and drop it in the mail.

No. 6194—Catalog on Mixers

The Rapids Machinery Co. has recently released a two color descriptive brochure covering its line of fertilizer mixers and accessory equipment. Featured in the brochure are the firm's heavy duty industrial mixer and other types of mixers and a detailed illustration explaining the mixing and blending action of the various mixers. The balance of the brochure contains information and

illustrations of the small batch mixer, elevator, finisher, and lists other available accessories for the fertilizer manufacturer. Copies are available on request. Check No. 6194 on the coupon and mail it to this newspaper to obtain the catalog.

No. 5091—Heating Tape

The Miller Manufacturing Co. has announced new developments in its product called by the trade name, Little Giant No-Freeze heating tape. Suitable for poultry and livestock fountains, as well as for various uses in industrial plants and factories, the product is claimed to resist oil, grease, mild acids and alkalis; can be operated continuously at temperatures up to 176° and works off an AC or DC light socket. It is claimed to be shockproof, fireproof and waterproof and has a self-contained electrical unit. The retail price quotation begins with a 6-ft. size. For more complete details check No. 5091 on

the coupon and mail it to this publication.

No. 6197—Brochure

The Diamond Alkali Co. has prepared a 16-page brochure depicting the contributions made by the company's chemicals to agriculture and other industries. The booklet, called "15 Portraits in Print," contains 15 selected full-page, four color advertisements published by the company in recent issues of magazines. Interpreted in words and pictures are the diverse ways in which the company's chemicals are helping industries. Check No. 6197 on the coupon, send it to this publication and a copy of the brochure will be mailed without charge.

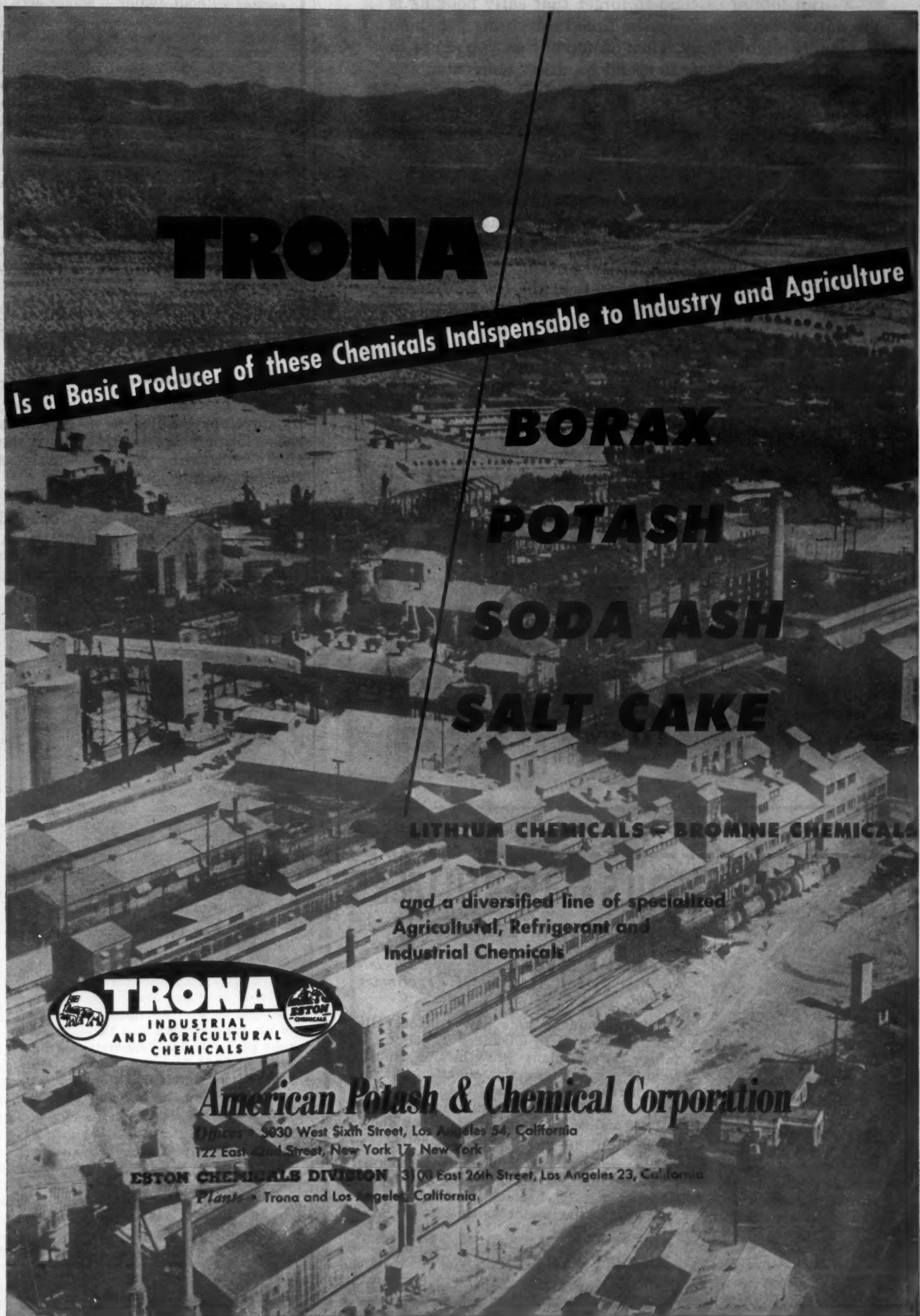
No. 6196—Bag Valve

A newly designed inner sleeve valve for multiwall paper fertilizer bags is being introduced by the Bemis Bro. Bag Co. The "Mr. Little" sleeve valve, named for its inventors, is dis-

tinguished by the patterned creases in the valve sleeve and the design of the sleeve itself. It functions in much the same manner as a check valve in a water pipe, which permits the water to flow freely in one direction but not in the other. A company report claims that "It practically eliminates leakage and gives maximum sifting protection." The valve's fast action on the packing spout keeps the product out of the valve pocket, which reduces the chance of moisture getting into the bag through the "wick" action of hygroscopic products, it is claimed. To secure more complete details check No. 6196 on the coupon and mail it.

ROOT BORER CONTROL

CORVALLIS, ORE. — Early applications of aldrin or heptachlor, of 2 lb. active ingredients per acre, will control clover root borer, E. A. Dickason, Oregon State College entomologist, reports. After five years of tests, he says that application by early April is important.



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50 seconds to read this ad now can save you hours and dollars this Spring!

Most growers recognize the need for high quality, high analysis phosphate fertilizer such as Anchor Brand Treble Superphosphate. It produces greater root growth—a must where water retention is critical; crops mature earlier so you can get premium prices; and it produces greater yields of improved quality—the key-stone of increased profits.

But lots of us tend to forget that early booking is darned important. By the time next spring gets here you're mighty busy. Then on top of that you're apt to find that you have to spend countless hours combing the country for Treble and still end up using an inferior grade. So a few minutes spent calling your fertilizer supplier right now can save you many hours next spring.

And speaking of saving—Anchor Brand Treble Superphosphate saves you time and money when applied, too. It's a guaranteed 46%—the highest analysis Treble you can buy. This means you use less, have less bulk to haul and store. And Anchor Brand is pelletized for easier application—one of the few phosphate fertilizers you can actually fly on, in addition to the other methods of application.

Here's the moral: Make your booking of Anchor Brand Treble Superphosphate now. You'll be glad next spring you spent a few minutes today.



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New Jersey Agricultural Experiment Station.

In plain language, this new edition tells how recent modern advances in soil technology affect plant growth and annual yield . . . and how the effective use of basic methods can increase the productivity of farm lands. New facts, accurate figures, and 66 pointed illustrations show the relation between crops and soils.

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SHOP TALK

OVER THE COUNTER

FOR THE DEALER

By **EMMET J. HOFFMAN**
Merchandising Editor



You've probably thought about expanding your farm. Have you thought about the fact that there is room for expansion right now without adding a single acre?

You can expand by going down instead of spreading out. Well-timed applications of the right fertilizers and soil conditioners will make your soil produce more.

You can expand by controlling the insects, the diseases—all the pests that reduce the production you are now getting on your present land. Get rid of those pests and your internal expansion program will add every bit of the crops they would have destroyed.

And, how about the water wasted and the crops crowded out by weeds? There's plenty of room for internal expansion right there.

We like this idea of internal expansion. It makes sense and it can make money for you. Our Field Men talk about it a lot in our weekly meetings. Their education, training, and experience are all aimed at helping you to expand your production . . . to help you make the most with what you have. They're backed up by the statewide Arizona Fertilizers organization which has the technical facilities and the top quality fertilizers, soil conditioners, insecticides, fungicides, and weed killers needed to assure you maximum production.

Why not talk with your Arizona Fertilizers Field Man about expanding the capacity of your farm? He's as near as your phone.

An Arizona fertilizer company is achieving outstanding results by developing sales to so-called "small acreage" farmers. Many of these farmers are making more than a comfortable living by intensively cultivating 60 acres—assisted by a carefully planned fertilization program.

This company, Arizona Fertilizers, Inc., Phoenix, has given this development a lot of attention and much of its success can be attributed to well-planned advertising devoted to it. One advertisement which appeared in a number of farm papers in the company's trade area is a striking, forceful creation which won the Arizona Advertising Award given by the Phoenix Advertising Club. The advertisement has such significance for the entire industry that it is being reproduced above.

Truly remarkable are some of the results of this campaign to develop fertilizer sales to the small farmer. F. M. Feffer, president of Arizona Fertilizers cites the case of one farmer who last year purchased agricultural chemicals amounting to \$2,396.00 or just less than an average of \$40.00 per acre. This year this farmer has asked a company field man to arrange a program involving an expenditure of \$5,000 because he feels that he can do an even better job of farming, materially increasing his farm income by so doing.

Mr. Feffer comments further—and very wisely, too—that his company's policy is to stress to field men that selling agricultural chemicals is anything but a high pressure job; if the fieldman is factual in his presentation and through actual performance demonstrates his ability to adequately serve the farmer, he will gain the farmer's confidence and the orders will take care of themselves.

More Than Selling

It is Mr. Feffer's belief that field men—those engaged in advising on, and selling of agricultural chemicals—must have the basic training to intelligently evaluate the farmer's problems and recommend materials and cultural practices which pay dividends.

Mr. Feffer's observations cannot be

debated. They are sound and make a lot of sense to anyone connected with merchandising agricultural chemicals. One wonders how these principles can possibly be ignored but unfortunately that is often the situation.

Wyoming Soils Low in Phosphorus

LARAMIE, WYO.—Lack of phosphorus in many Wyoming soils holds down yields of many crops, according to Wyoming Agricultural Experiment Station scientists. J. L. Mellor, agronomist, says 94 out of every 100 soil samples tested were low to medium in phosphorus. The test showed that fields represented by 94% of the samples need additional phosphorus for good production of most crops.

In actual field experiments for three years, alfalfa yields increased nearly 1½ times when phosphorus was added to fields low in phosphate. Extra phosphate on medium to low phosphate soils also helped sugar beet yields.

Beats the Drouth

WINDSOR, COLO.—Good management and irrigation helped Jack Brunner, Jr., beat the drouth last year on his 180-acre farm here. Mr. Brunner produced 20.7 tons an acre on 44.7 acres of sugar beets. All the beet ground received 150 lb. 42% superphosphate and 32% liquid nitrogen, applied simultaneously.

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NITROGEN SOLUTIONS GROUP PLANS FIRST ANNUAL MEETING

SHENANDOAH, IOWA—Arrangements have been completed for the first annual meeting of the National Nitrogen Solutions Assn. to be held in Omaha, March 14-15. The Paxton Hotel will be headquarters, at least 200 rooms have been made available as well as the entire lobby and mezzanine space for commercial displays. Any commercial displays that can go through standard hotel entrance doors may be set up. A charge of 25¢ per square foot for exhibit space will be made.

Hotel reservations should be made directly with the Paxton Hotel. Request for commercial display space should be directed to Wayne R. Johnson, Box 163, Shenandoah, Iowa, association president.

Convention will convene at 10 a.m. March 14. Arrangements have been made for convention luncheons March 14 and 15 and a banquet the evening of March 14. Special plans will be made for entertaining the ladies.

The program will deal with all phases of nitrogen solutions, equipment for storing and handling solutions, merchandising solutions, economic outlooks for agriculture and service aspects of solution business.

Officers for the national association will be elected at this meeting.

California Farm Supply Sales Rise

SAN FRANCISCO — Retail sales by farm implement dealers, who also sell agricultural chemicals, in California stood at \$38,500,000 between July 1 and Sept. 30, 1954, according to tabulations by the division of research and statistics of the California State Board of Equalization. This represents a rise of 11.16% over the sales by these outlets for the corresponding quarter in 1953.

The comparative figures of farm and garden supply dealers, who also handle farm chemicals, also showed an upward trend. Total sales for the third quarter of 1954 were \$20,221,000, up by 3.37% over the third quarter of 1953.

CIPPERLY

(Continued from page 1)

provisions of the Miller Law. This action was taken to clear the administrative desks of FDA so that it could act promptly on matters concerning new applications for pesticide tolerance approvals.

Speaking on the outlook for applications for tolerance levels under the Miller Bill, George P. Larrick, FDA Commissioner, told Croplife that between this time and July 1, 1955 he does not expect more than 25 to 30 applications for tolerance allowances.

In this opinion he is supported by Lea S. Hitchner, executive secretary of the National Agricultural Chemicals Association, who says the Larrick estimate is sound.

Further, Mr. Hitchner says that even after that date he does not anticipate any flood of applications. Developments on new pesticides and requests for tolerance will proceed in an orderly pattern, and applications will be the result of careful scientific study and analysis by his industry, Mr. Hitchner said.

Tobacco Growers Approve Marketing Quotas for 3 Years

WASHINGTON — Final results of grower referenda held Dec. 14, 1954, favoring continuation of marketing quota programs for fire-cured and dark air-cured tobacco were announced recently by the U.S. Department of Agriculture.

For fire-cured tobacco (grown principally in Kentucky, Tennessee and Virginia), out of a total of 11,919 votes, 11,399 or 95.6% were in favor of marketing quotas for the next three years, and 217 or 1.8% were in favor of quotas on the 1955 crop only. Quotas will be in effect for the next three years.

For dark air-cured tobacco (grown principally in Kentucky and Tennessee), out of a total of 9,538 votes, 9,150 or 95.9% voted for three-year quotas was 11,616 votes or 97.4% of one-year quota on the 1955 crop only. Quotas will be in effect for the next three years.



H. E. Dennie



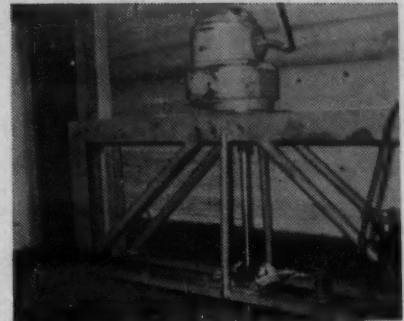
E. P. Alexander

CHASE APPOINTMENTS — H. E. Dennie has been named manager of the Chase Bag Co. Philadelphia Branch, it has been announced by R. N. Conners, executive vice president. Mr. Dennie has been sales manager of the branch since 1952. He succeeds J. P. Grady, who continues as eastern regional sales director for this manufacturer of bags and packaging. Mr. Dennie has been with Chase Bag for ten years, serving in the advertising and sales departments before coming to Philadelphia. Changes in the Chase Bag sales organization were also announced by W. N. Brock, vice president and general sales manager. E. P. Alexander, formerly manager of the company's Detroit office, has been named sales manager of the Chicago sales office. In this new position he will coordinate direct-selling activities of the Chicago facility, of which A. A. Glatz is manager. D. B. Fendler has assumed the duties of sales manager in Detroit. He was formerly with the sales promotion department, Chicago. J. F. Pouchot, salesman with the Chase Bag office in Chicago, has been appointed to the sales promotion department.

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Reprints of Croplife's Feature

Bug of the Week

Twenty four of the insects described in Croplife's weekly feature, "Bug of the Week," have been reprinted into an attractive 8½ x 11 inch booklet for distribution to the trade. The price is 25c each in quantities up to 100; 20c each in quantities of 100-1,000, and 15c each in quantities over 1,000. Firms may have their names imprinted on the back cover at a moderate extra charge.

Included in the booklet are the following insects:

Alfalfa Weevil
Armyworm
Boll Weevil
Chinch Bug
Cotton Bollworm
Cutworm
Grasshopper
Imported Fire Ant
Lawn Chinch Bug
Lygus Bug
Meadow Spittlebug
Mosquito

Northern Corn Rootworm
Onion Thrip
Plum Curculio
Potato Leafhopper
Seed Corn Maggot
Sweetclover Weevil
Tarnished Plant Bug
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Tomato Hornworm
Tuber Flea Beetle
White Grub
Wireworm

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WORLD REPORT

Industry News from Everywhere

By GEORGE E. SWARBRECK
Croplife Canadian and Overseas Editor

Complaints by Canadian farmers that fertilizer manufacturers are combining to keep prices high have proven groundless. Stuart Garson, minister of justice, told the House of Commons that members of the combines investigation branch had made an examination of the fertilizer business and found no evidence to support the allegations.

Action by the authorities followed widespread dissatisfaction leading to

questions on the floor of the House. Farmers' organizations backed individual growers in their complaints and specific allegations were made against named companies.

The manufacturers did not wait for their innocence to be proven by the government. They issued statements admitting that the cost of fertilizers had risen in recent years but added that this was be-

cause the ingredients contained therein were better and of greater strength.

Thus the farmer was receiving a proportionately greater return for his fertilizer dollar than he did before. At the same time the trade joined in efforts to educate farmers in the correct use of fertilizers, attempting to show that excessive treatment was often a cause of loss and expense.

Experienced traders do not believe that the matter will be allowed to rest at the government's finding. Farmers, they say, will be urged to continue their attacks, and because of this the fertilizer industry proposes to carry on with its educative program, through the medium of the various provincial advisory committees.

DDT Award

The inventors of DDT have been awarded the equivalent of \$16,800 by

the British government for the help their product gave to the successful prosecution of World War II.

The Royal Commission of Awards after a lengthy hearing, reserved decision upon the claim of J. R. Geigy S. A., Basle, Switzerland and Geigy Co., Ltd., Manchester, England. The commission was told that the patents were shared by the two firms.

In 1942 it was found that DDT had an extraordinary controlling effect on lice and mosquitoes, and the British armed forces were provided with shirts impregnated with powder or with a supply of the powder itself. (Croplife Jan. 3, page 18).

Nitrate Barter

The government of Chile has authorized several barter deals where importers coordinate their business with exporters of nitrate. Plans have been made for business with Japan, Peru, Poland and Sweden. Other deals are reported to be in an advanced stage of negotiation.

The authorities are making an all out attempt to help the industry meet competition from producers of synthetic fertilizers, and to increase output to take care of the extra trade gained. Under a recently signed agreement, the Anglo-Lautara Nitrate Corp. has undertaken to complete a program of improvements and expansion at a cost of at least \$14 million and possibly ranging upwards to \$25 million.

The new project will be financed in part by funds to be obtained from the Export-Import Bank.

Another company, Cia. Salitrera de Tarapaca y Antofagasta, is to undertake a similar program involving an expenditure of \$11 million in U.S. funds and a substantial amount of local currency.

As part of the agreement, both companies undertake to supply nitrate to the Chilean farmers at cost plus 10%.

New Plants

Every week come reports from countries throughout the world detailing plans for more agricultural chemical plants.

A new fertilizer factory is to be built at Nangal, India. Venezuela is to have a new plant for the manufacture of nitrogenous and phosphatic fertilizers. It will have a capacity of 80,000 tons ammonium nitrate and ammonium sulfate; 18,000 tons urea and 100,000 tons superphosphate. A fertilizer factory is to be built in the Adana area of Turkey, with the sponsors hoping to do export business with adjacent Arab countries.

Phosphate Depleted

According to the agricultural department of the British Council in London, the deposits of phosphate on Ocean Island in the Pacific will be exhausted in 30 years. Currently, one of the most prolific suppliers of phosphate, the island is maintaining its production.

Canadian Output

Final figures on Canadian output of chemicals in 1953 were released by the Dominion Bureau of Statistics Feb. 1 and showed 1953 production of \$235,582,000—up some \$25,000,000 from the 1952 production of \$230,050,000. Output of the acids, alkali and salts industry was worth \$127,299,437, an increase of 11.5% over 1952 production value of \$114,187,526.

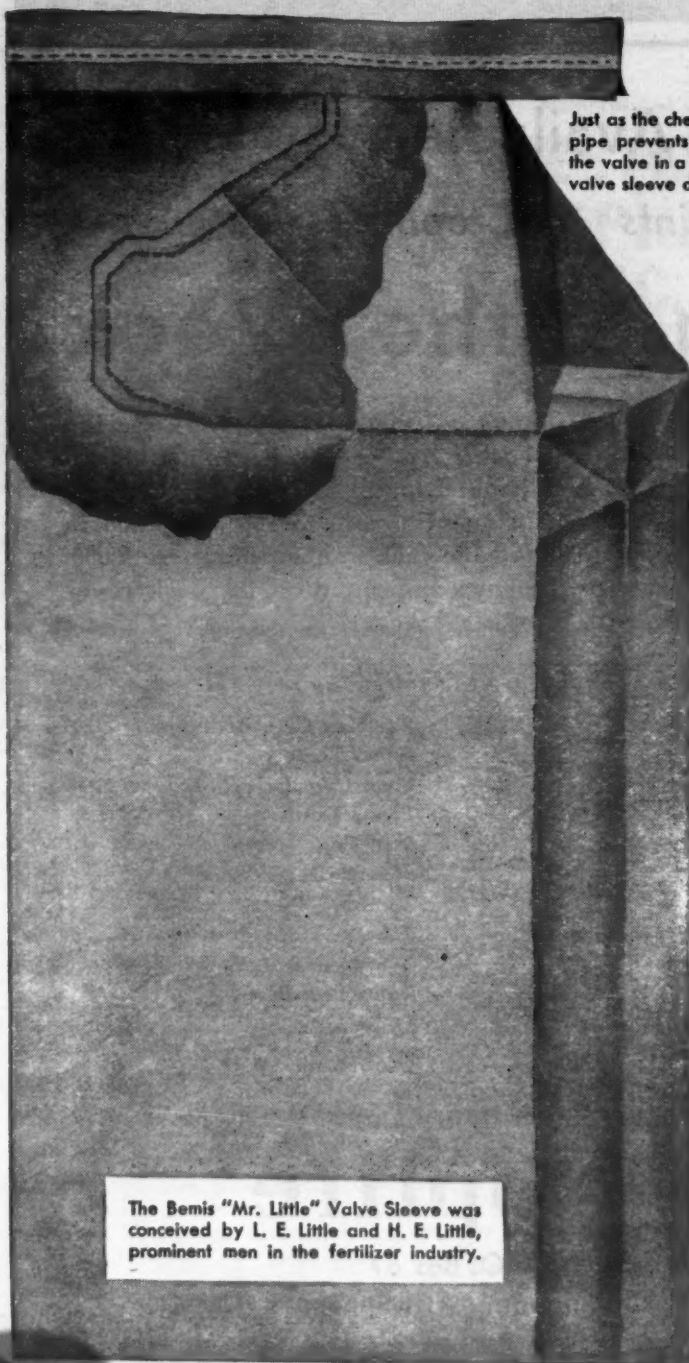
Output of acids from all industries in 1953 was valued at \$14,651,000 compared with \$12,926,000 in 1952. A similar comparison in calcium compounds showed a decrease to \$16,032,000 from \$16,640,000 while sodium compounds increased to \$30,814,000 from 29,795,000. Other increases were shown in organic chemicals at \$61,539,000 from \$51,896,000 and fertilizer chemicals to \$50,682,000 from \$47,993,000.

The most revolutionary Multiwall

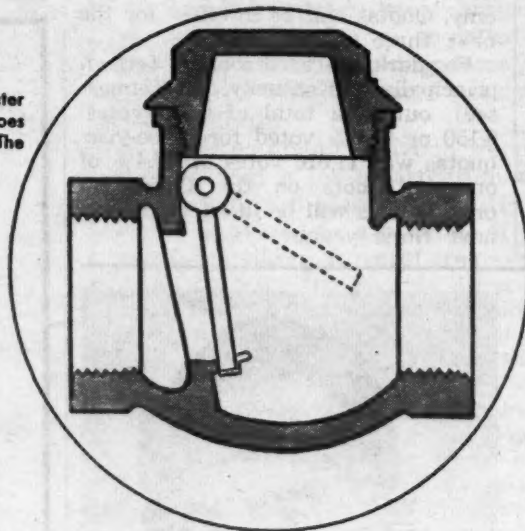
Bag development in years!

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"Mr. Little" Valve Bag*



Just as the check valve in a water pipe prevents back flow, so does the valve in a Bemis Multiwall. The valve sleeve does the trick.



Maximum Sifting Protection—Creases in the valve sleeve—a new principle—give a faster-acting, tighter closure particularly with troublesome granular or pelletized products. It really seals in the bag contents.

Valve Corner Moisture Protection—Since bag contents do not get into the valve pocket, "wick" action that draws moisture into the bag is avoided.

Cleaner Packing—Handling—Shipping—No more spilled fertilizer on packing room floors and conveyors; no more dirty cars received by your customers.

Ask your Bemis Man for the complete details. He'll gladly show and demonstrate the revolutionary new "Mr. Little" Valve Bag. Write or call him today.

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*Pat. Applied for

The Bemis "Mr. Little" Valve Sleeve was conceived by L. E. Little and H. E. Little, prominent men in the fertilizer industry.

Frank Parmalee Leads Michigan Pesticide Group

EAST LANSING, MICH.—Frank Parmalee, E Z Flo Chemical Co., Lansing, will head the Michigan Insecticide-Fungicide Institute for the coming year, following his election at the recent annual Michigan Insecticide-Fungicide Conference at Michigan State College.

Mr. Parmalee, who had been vice president, succeeds Hugh Roach, Haviland Products, Grand Rapids, as the new president.

Clarence Perkins, McBride, is the new first vice president, and Russell Ashworth, Pontiac, is second vice president. Robert Van Antwerp, Grand Rapids, was reelected secretary-treasurer. Mr. Van Antwerp also serves as editor of the "Michigan MIFI News," publication of the organization.

Newly-elected board members are Anton Regner, Dearborn; Maurice Haven, Pontiac; Earl Stelmie, Sodus, and the immediate past president, Mr. Roach.

Only action taken at the business meeting was the establishing of a subscription rate for the MIFI News.

The two day conference, attended by 75, was held at Kellogg Center for Continuing Education on the Michigan State campus.

Four persons spoke at a symposium session on "What Kind of Spray Service Does Michigan Need?" The question "What Kind of Spray Service Does MIFI Desire?" was outlined by Robert Van Antwerp, Haviland Products, Grand Rapids; "What Kind of Spray Service Best Serves the Grower?" by Jerry Mandigo, district horticultural agent for Southwest Michigan; "How Can the Extension Specialist Improve the Spray Service?" by Dr. E. J. Klos, of MSC Botany and Plant Pathology Department, and "How Can the Extension Service Promote a Spray Service Program," by Dr. D. B. Varner, director of Cooperative Extension Service, MSC.

Dr. Lloyd M. Turk, director of the MSC Agricultural Experiment Station, gave the official welcome for the college and many college professors appeared on the program.

Among the topics covered by college professors, all members of the Horticulture or Botany and Plant Pathology or Entomology departments, were "Diseases of Small Fruits" by Dr. Robert Fulton; "All Purpose Insecticides" by Dr. Raymond Janes; "All Purpose Fungicides" by Dr. E. J. Klos; "Fly and Mosquito Control" by Dr. Herman King; "Applications for Pest Control" by Dr. A. E. Mitchell; "What's New in Weed Control" by Dr. B. H. Grigsby; "Scab Control" by Dr. Donald Cation; "Root Maggot Control" by Dr. Gordon Guyer; "Peach and Cherry Insects" by Franklin Sherman III and Dr. Alfred C. Dowdy; "Nematodes" by Dr. John Kinerim; "Chloro IPC" by Dr. Stanley K. Ries.

Representatives of various Michigan firms also participated on the program. "Turf Disease Control" was discussed by Dr. William Klomparens, of Upjohn Chemical Co., Kalamazoo; "Applications for Forest-Shade and Estates" by M. Howard Ingerson, John Bean Sprayer Co., Lansing; "Applications for Row Crops" by James Russell, Hardie Sprayer Co., Hudson; "Dalapon" by John Davison, Dow Chemical Co., Midland; "What Kind of Spray Service does MIFI Desire?" by Robert Van Antwerp, Haviland Products, Grand Rapids. Other speakers were Harold Bruner, Robert Chemical, Akron, Ohio, on "Herbisan," and Dr. John Zukel, Nautaguck Chemical Division, U.S. Rubber Co., Bethany, Conn., on "Maleic Hydrazide."



AT GEIGY PLANT DEDICATION—Geigy Agricultural Chemical Co. dedicated its new \$500,000 processing plant on Jan. 27 with an open house event at the plant site in Des Moines, Iowa. Pictures here were taken in connection with the event. Top of page, at head table at banquet held in evening. (L to R): Nick De Manczuk, Geigy advertising manager, New York; Lou Harris, New York; Wayne Rorman, plant superintendent, Des Moines; C. C. Alexander, director of research, New York; W. F. Zipse, president of Geigy Chemical Corp., New York; E. C. Gerdes, midwestern manager, Des Moines (speaking); Dr. George Ferguson, president of Geigy Agricultural Chemical Co., New York; John Plowden, sales manager, New York; R. T. Parker, vice president, New York; Warren Ross, traffic manager, New York; Merrill Bunnell, New York; and A. M. Alexander, counsel, New York. Second from top: Group of visitors being shown through the new Des Moines plant during the open house. Below it, Geigy Agricultural Chemicals Co. president, Dr. George Ferguson (center) inspects facilities. From left to right in photo are R. T. Parker, New York; Dr. Ferguson; John Plowden, New York; and E. C. Gerdes, Des Moines. The lower photo shows W. F. Zipse, Geigy Chemical Corp. president (left) with Mr. Gerdes, inspecting the premises. (Complete story of open house was published in Croplife issue of Feb. 7, page 5.)

Atlas Powder Moves To New Building Near Wilmington

WILMINGTON—Atlas Powder Co. moved its general offices Feb. 11 from the downtown Delaware Trust Bldg., where it has occupied space for 34 years, to a new building of its own on a 45-acre tract about three miles from downtown Wilmington.

The new building, under construction for 14 months, will provide badly needed additional space as well as the most up-to-date facilities for the company's office staff, the company said.

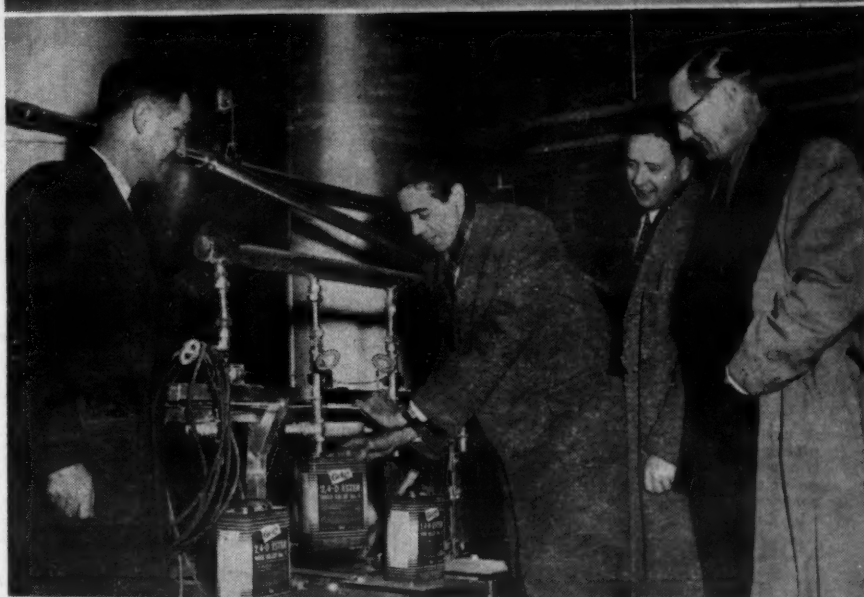
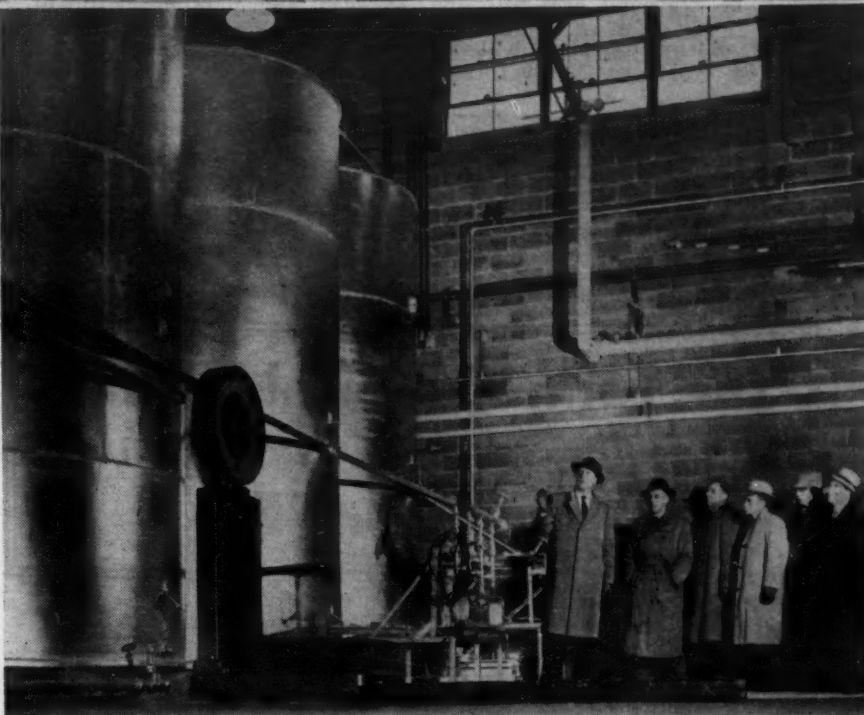
Adjacent to the office building is a cafeteria-recreation building for employees. The grounds include a swimming pool, tennis courts and a baseball diamond for employee use.

James O. King in New Diamond Post

CLEVELAND—Promotion of James O. King to the position of special staff assistant in the sales department of Diamond Alkali Co. at its national headquarters in Cleveland, Ohio, has been announced here by W. H. McConnell, vice president, sales. The appointment is effective immediately.

Mr. King comes to his new post following four and a half years as a member of Diamond's southwestern district sales staff.

A native of Oklahoma, Mr. King joined the Diamond organization shortly after graduation in 1950 from the University of Tennessee, Knoxville, where he earned a B.S. degree in chemical engineering, and was immediately assigned to the company's southwestern district sales staff at Houston.



Firm Incorporates

DOVER, DEL.—Flo-Mix Fertilizers Corp. filed a charter of incorporation with the corporation department of the secretary of state's office here. Authorized capital stock of the firm is \$300,000. Corporation Trust Co., Wilmington, Del., is serving as the principal office.

Applicators to Meet

COLUMBIA, MO.—The Missouri College of Agriculture has scheduled its second annual Aerial Spray Applicators Short Course for March 1-2, 1955. The meetings will be held in the Memorial Student Union on the University Campus in Columbia.

ANHYDROUS PLANT

(Continued from page 1)

now being erected for the Great Northern Oil Co. at Pine Bend, about 14 miles south of St. Paul. The ammonia products will be manufactured from natural gas and oil by-products drawn from Great Northern.

Planning and building will be in the hands of the Lummus Corporation of America, New York, and it is expected that the plant will go into production around April, 1956.

Natural gas for the plant will be supplied by Northern Natural Gas Co., Omaha.

Mr. Campbell's group is planning a similar installation at Montreal, P.Q., with work scheduled to start in the spring. This plant will be owned by Quebec Ammonia Co., Ltd.

Mr. Campbell has made important contributions to Canadian progress in the chemical field during the past few years. He is president of Inland Chemicals, Ltd., a company engaged in building a sulfuric acid plant at Fort Saskatchewan, Alta. The market for the acid has already been negotiated.

Sherritt, Gordon Mines has a chemical and metallurgical plant adjacent to the site and it has undertaken to buy 7,300 tons sulfuric acid a year on a "take or pay" basis with the possibility that purchases may be raised to 14,000 tons later.

Under the agreement, Sherritt Gordon can also take, for the production of fertilizers, as much acid as Inland can produce in excess of its contracts for sale to Sherritt and other buyers.

Move Beaten to Trim President's Tariff Cutting Authority

WASHINGTON—The Democratic majority of the House Ways and Means Committee last week beat down Republican attempts to reduce executive tariff cutting authority and other proposals, which would establish special categories for groups of U.S. products, as the committee prepared to report a bill to the House floor. These reported actions are tentative and may be reversed when the committee meets to report a final bill.

From the viewpoint of the chemical industry, a proposal by Congressman Howard B. Baker, (R., Tenn.) to segregate chemicals, pottery, electrical goods and machine tools from the chief executive's broad authority over tariffs on the grounds that they were essential national defense items

was killed in the tentative vote of the committee.

It is not known at this time how broadly the Baker proposal would be applied. It was thought that it concerned primarily pharmaceuticals and drugs but as reported it appears to have been taken in the whole field including agricultural chemicals.

Lion Oil Dividend

ELDORADO, ARK.—At meeting Feb. 8 directors of Lion Oil Co. declared regular quarterly dividend of 50¢ per share on the common stock of that company to be paid March 1, 1955, to holders of common stock on record at the close of business Feb. 25, 1955. The close of business on February 25, 1955, was designated as the record date for ascertaining the holders of common stock of Lion Oil Co. who shall be entitled to vote at the annual meeting of stockholders of the company, to be held April 1.

The Farm Chemicals Library Reader Service Department CROPLIFE

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Dr. John H. Perry

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POTASH HEARING

(Continued from page 9)

of America, Washington, D.C.; Northwest Potash Corporation, N.Y.; U.S. Potash Company, New York.

Mr. Rothwell told the commission that his clients generally stood on the same position disclosed at the previous hearing on imports of East German muriate of potash. Several modifications of that position were noted, however, insofar as it was affected by the substantially different political position of Western Germany and France.

The position of the domestic industry as reflected by Mr. Rothwell's clients was that the domestic industry was particularly vulnerable to shore receipts of muriate of potash, because it had little choice to meet dumping competition other than to reduce prices. Unlike other industries, there was little opportunity to meet cut-price competition through consumer appeals as to quality and ability of their products. For example, he noted a rather inflexible market situation for muriate of potash in the fertilizer industry. This was described as having a low degree of flexibility that makes it impossible to expand markets for increased volume and thus reduce costs to meet foreign competition.

Mr. Rothwell drew a distinction between the exporting nations involved in the current hearings and the East German government. He said that both France and the Federal Republic of Western Germany were geared to an economy where foreign production could be measured accurately, markets estimated, and commercial behavior understood. The antics of Eastern Germany however, are beyond such standards, he pointed out.

In behalf of importers in the U.S., James F. Dwyer of the law firm of Utterlee, Warfield and Stephens, presenting the French Potash and Import Co., New York; Summers Fertilizer Co., Inc., Baltimore, Md.; and Omar Sanders, Fertilizer Industries, Inc., New York, accepted the domestic producers' position regarding the previous testimony at the last German import hearing. This acceptance, however, was subject to specific changes which this week's hearing might bring about. Mr. Dwy-

er told the commission that 35 years of experience in importing French potash revealed no predatory pricing practices.

He charged that the French imports served a specific market close to the Atlantic seaboard and that the commission was required to study the local nature of sales of imported French muriate of potash.

He further noted that the treasury department had never notified his clients as to charges of potash dumping and that there was no evidence that French prices showed any injury to domestic industry. He asserted that domestic producers had made no claim against the French export sources.

It was developed subsequently under questioning by commissioners, that the treasury department finding of sales at less than fair market value reflected invoice prices to their U.S. agent, the French Potash & Import Co., but did not cover the resale price of that U.S. corporation to its domestic customers.

Henry E. Lefevre appeared subsequently as a witness for that company and recited competitive conditions which he charged reflected fair prices to U.S. fertilizer companies located along the eastern seaboard. This condition reflected special conditions of their business which represented service to special customers, he said.

Mr. Lefevre described the fertilizer manufacturing industry of the U.S. as amounting to 2,000 individual plants of which 16 were on the water, and 90 plants within switching areas adjacent to water facilities. Of this total on or adjacent to water, the French Potash & Import Co. sold their imports to 36 of those companies. Sales to all others at interior points amounted to consignments to only one company. He backed his assertion with charts for the commission record.

Mr. Lefevre pointed up the import position with a description of the business competition between U.S. potash and the imported material, citing price adjustments by the importers to meet domestic conditions. The French imports have been variously priced on basis of tackle side of ship at waterside fertilizer plant facilities and on basis of buyers' gate within the switching areas of ports.

A tariff commission member questioned Mr. Lefevre regarding the invoice price of muriate of potash to his company and the resale price to U.S. fertilizer manufacturers. The question indicated that there was an implied threat to reduce prices to the invoice price level. Mr. Lefevre made no comment on this potential, but restated that his company was interested primarily in the maintenance of steady reliable business. His company, he said, prefers to maintain U.S. markets even though there might be suspicion in the minds of the commissioners—as indicated—that import customers might be using the French import price as a club over U.S. producers.

The American Farm Bureau Federation, through its spokesmen, got into the act to protest vigorously against any action by the commission which would hurt U.S. agricultural interests. The AFBF claimed that the only injury apparent in the controversy would be to farmers whose costs would be increased to a "staggering" degree as a result of any advance in imported potash prices from France or Western Germany. AFBF officials said that the

U.S. was importing less than 5% of the national potash requirements and it is "difficult to visualize any serious injury."

The AFBF added the comment that it had consistently backed more liberal trade policies by the U.S. and any action to increase tariff walls would merely check expansion of international trade.

North Carolina Shipments Show Gain

RALEIGH, N.C. — Fertilizer shipments in North Carolina during July to December of 1954 totaled 264,475 tons, according to the North Carolina Department of Agriculture. This compares with 257,100 tons during the corresponding period a year earlier.

December, 1954, shipments totaled 64,846 tons, compared with 60,698 tons in December, 1953.

Predicts Slight Drop In 1955 Farm Income

PULLMAN, WASH. — Stay-home pay of Washington's farmers will probably average around 3% lower in '55 than this year, according to Washington State College extension price expert, Sharon Q. Hoobler.

The "pay" cut, Mr. Hoobler said, will be largely due to two factors: lower incomes from diverted wheat acres, and reduced rates on some supported products. Production costs will also drop slightly next year, but not enough to make up for the expected lower returns, Mr. Hoobler said.

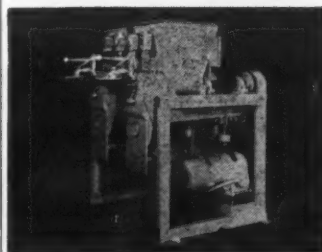
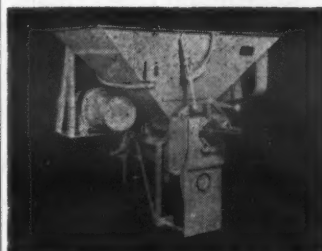
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A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The rotational circulation of this issue is concentrated in the Western states.

More About Research

That agricultural research pays its way many times over through helping to increase both the amount and quality of food and fiber, was brought out strikingly in a recent talk by Dr. E. C. Elting, deputy assistant administrator for experiment stations, USDA. Speaking before an audience of agricultural scientists at Washington State College, he assured his listeners that agricultural research is no "hitchhiker."

Although some of the points made by Dr. Elting have been brought out before, he gives some new twists that bear emphasizing.

"There has been a revolution in our agriculture in the past 15 years," he said. "Our production has increased 40%; yet, we had 2 million fewer workers in agriculture and added no appreciable acres to the land we are farming. American agriculture is the most efficient and prolific the world has ever observed. The fact that this revolution has occurred is a salute to the agricultural research which has helped so materially to make it possible."

Dr. Elting observed that many people think the land-grant colleges and other groups doing agricultural research benefit only the farmer.

"If, because of research, a farmer can produce more at a lower price, naturally the consumer can't help but benefit. He'll see the end results of research reflected in lower prices of the products he buys or better quality or both."

The United States' rapidly increasing population presents a challenge to agricultural scientists, he declared, citing population estimates showing this country will have some 200 million people to feed, clothe, and house by 1975. "Under today's conditions, that would mean by 1975 we must find 120 million acres of new farm land. That's obviously impossible. It is up to the agricultural scientist to see that the ways to produce that food and fibre are found in time to meet the need—38% more livestock products and 25% more crop production. The challenge could not be clearer."

Producers and sellers of all types of agricultural chemicals must keep in mind that research, not only at the state and federal level, but throughout industry as well, is making constant headway against the many problems involved in agriculture. New ideas, new materials and new methods of applying them are constantly being brought forth.

It all adds up to making the farm chemical industry one of the most lively and interesting enterprises in the world. Yet, the responsibility of providing food and fiber for a growing country is a real one . . . and you can just about bet your bottom dollar that the one most important activity, so far as fulfilling tomorrow's needs are concerned, is today's agricultural research.

Weeds, Expensive Luxury

Much has been written and spoken about the particular importance of adequate fertilization of crops. This is an acknowledged way to keep up profits in the face of restricted acreages, but sometimes in the zeal of promoting this worthy cause, other factors may be overlooked temporarily.

Just as fertilization is an absolute necessity in gaining top yield from given crop areas, it follows that strict attention should also be paid to getting rid of weeds which act as robbers of soil nutrients, moisture and space in the field. Allowing weeds to overrun valuable crop land is about as sensible as a manufacturer would be to permit his valuable output to be put out in the rain to rust.

A recent meeting of the California Weed Conference held a symposium on the actual monetary loss caused by weeds in various crops in that

state. The figures quoted by various speakers were startling.

Luther G. Jones, University of California agronomist, said that the cost of controlling weeds in eleven important crops in California totaled over \$62 million in 1954. This figure was arrived at by a crop-by-crop analysis which gave the number of acres under cultivation and the amount spent for weed control in each. It came to an average cost of \$15.06 an acre, for a total of 4,124,700 acres.

Add to this the loss sustained in irrigated crops on some 7,000,000 acres and the loss figure rises to a whopping \$105,420,000! Costs listed here are mainly those stemming from lower prices as a result of grading down, increased labor in production, cost of spray materials and higher processing charges.

Of particular significance, however, is Mr. Jones' statement that with the exception of orchard crops, reduction in yield of valuable crops runs between 5% and 10% due to weeds. In 1954, vegetable and field crops were valued at \$1,150,963,000," he said. The lowest estimate given of weed damage to yield was 5% of the crop value, or \$57,548,150. This, added to the \$105,420,000 bill for weed control efforts, makes the total cost of weeds in eleven California crops reach the sum of \$162,968,150.

Here then is a real villain running too loose in our agriculture! Weeds are costly and their better control is an objective well worth seeking. Herbicide manufacturers and dealers have a real opportunity to provide the materials to accomplish a large part of this over all goal. Arguments against the purchase of herbicides because of their cost can very well be broken down by the figures quoted by this California agronomist. When growers in a single state lose nearly \$60 million each year to uncontrolled weeds, there should be no doubt about there being a logical sales story on chemicals for weed control.

California, of course, has unusual conditions regarding weeds. Among others, are problems of aquatic weeds choking irrigation ditches and the intensive cultivation practiced during the long growing season. Unfortunately, growing conditions are just as favorable for weeds as they are for valuable crops.

Probably if one were to calculate the total agricultural losses caused by unwanted vegetation throughout the U.S., the total would be astounding. The market for various herbicides, including those used for brush control along railways, highways, industrial areas and power lines, is almost fantastic. Now it is up to the trade to cash in on this potential through a stepped-up sales program!

Confidence Pays Off

The question of how far can or should manufacturers and dealers go to promote the sale of fertilizers and other farm chemicals, has been kicked around a great deal from time to time.

On page 16 of this issue is the story of how Arizona Fertilizers, Inc. has made tremendous strides in the direction of building confidence in their products and their integrity. It relates the story of how one grower placed in their hands the responsibility of using \$5,000 of his own money for fertilizers, pesticides and other chemicals to produce profitable crops. That is about the ultimate in confidence.

The Arizona firm has also made a name for itself in the type of advertising it has used in its trade area. We suggest that others in similar positions take a look at what is possible to achieve through wise merchandising methods.



CROPLIFE is a controlled circulation journal mailed to those responsible for the production and distribution of fertilizer and other farm chemicals and to retail dealers of the agricultural chemical industry in the U.S. To those not on the controlled list, CROPLIFE is available at \$5 for one year, \$9 for two years (\$8 a year outside the U.S. and possessions). Single copy price, 25¢.

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Feb. 14-16—Centennial Symposium, Nutrition of Plants, Animals, Man, Michigan State College, East Lansing, Mich.

Feb. 15-16—Fourth Annual Pesticide Chemicals School, Clemson College, Clemson, S.C. Direct Correspondence to Dr. J. H. Cochran, Clemson Dept. of Entomology & Zoology, or to Dr. G. M. Armstrong, Clemson Dept. of Botany & Bacteriology.

Feb. 17-18—Middle West Soil Improvement Committee, Annual Meeting with Agronomists, Palmer House, Chicago, Z. H. Beers, 121 W. Wacker Drive, Chicago 1, Ill., Executive Secretary.

Feb. 23-25—Tenth Annual Meeting of Midwestern Chapter, National Shade Tree Conference, Chase Hotel, St. Louis, N. B. Wysong, Cook County Forest Preserve, 536 N. Harlem Ave., River Forest, Ill., secretary-treasurer.

Feb. 23-25—Fourth Annual Ohio-Indiana Agricultural Aviation Conference, Union Bldg., Purdue University, Lafayette, Ind.

Feb. 28-March 1—Fertilizer Section, Southern Safety Conference, Jung Hotel, New Orleans, Curtis A. Cox, Virginia-Carolina Chemical Co., Richmond, Va., Chairman.

March 1-2—Second Annual Missouri Aerial Spray Applicators Short Course, Memorial Student Union, University of Missouri, Columbia.

March 3-9—Idaho Plant Food Meetings, Sponsored by the University of Idaho; Couer d'Alene, March 3; Lewiston, March 4; Boise, March 7; Twin Falls, March 8; Idaho Falls, March 9.

March 7-9—National Agricultural Chemicals Assn., Spring Meeting, Chase and Park Plaza hotels, St. Louis, Lea S. Hitchner, Associations Bldg., 1145 19th St. N.W., Washington, D.C., Executive Secretary.

March 8-9—Western Cotton Production Conference, Hotel Westward Ho, Phoenix, Ariz.; National Cotton Council, P.O. Box 18, Memphis 1, Tenn.

March 22-24—National Farm Chemurgic Council, Inc., Annual Conference, Deshler-Hilton Hotel, Columbus, Ohio; John W. Ticknor, NFCC, 350 Fifth Ave., New York, conference chairman.

March 24-25—North Central States Branch, Entomological Society of America, East Lansing, Mich.

Apr. 26—Third Annual California Fertilizer Conference, sponsored by the Soil Committee, California Fertilizer Assn., University of California, College of Agriculture, Davis, Cal., Sidney H. Bierly, Executive Secretary, CFA, 475 Huntington Drive, San Marino, Cal.

May 19—Fertilizer Section, 25th Annual North Carolina Safety Conference, Robert E. Lee Hotel, Winston Salem, N.C.; William C. Creel, Safety Director, Department of Labor, State of North Carolina, Raleigh, Chairman.

June 2—South Carolina Fertilizer Meeting, Sandhill Experiment Station, near Columbia, S.C.

June 3—Fertilizer Section, Virginia State Safety Association, Jefferson Hotel, Richmond, Va.; William C. Richardson Southern States Cooperative, Richmond, Chairman.

June 12-15—Joint meeting, American Plant Food Council, Inc. and National Fertilizer Association, Greenbrier Hotel, White Sulphur Springs, W.Va. Paul T. Truitt, American Plant Food Council, 910 17th St. N.W., Washington, D.C., in charge of registration.

June 28-30—Sixth Annual Pacific Northwest Plant Food Assn. Regional Fertilizer Conference, Boise Hotel, Boise, Idaho, Leon S. Jackson, 702 Lewis Bldg., Portland, Ore., secretary.

Aug. 15-19—American Society of Agronomy and Soil Science Society of America, University of California, Davis Campus.

Sept. 7-9—Ninth Annual Beltwide

Cotton Mechanization Conference, Texas A&M College, National Cotton Council of America, Box 18, Memphis 1, Tenn.

Oct. 17-18—Fertilizer Section, National Safety Congress, LaSalle Hotel, Chicago, Thomas J. Clarke, Chairman.

Nov. 23—Annual Convention, Pacific Northwest Plant Food Assn., Pilot Butte Inn, Bend Ore., Leon S. Jackson, 702 Lewis Bldg., Portland, Ore., Secretary.

Nov. 7-8—California Fertilizer Assn., Thirty Second Annual Convention, Hotel Mark Hopkins, San Francisco, Sidney H. Bierly, Executive Secretary & Manager, 475 Huntington Drive, San Marino, Cal.

Dec. 5-7—Agricultural Ammonia Institute, Kansas City; Jack F. Criswell, Executive Vice President, Claridge Hotel, Memphis, Tenn.

Diamond Announces Retirement, Promotions

CLEVELAND—Retirement of a veteran executive and promotion of two other key officials at Diamond Alkali Co. were announced at its national headquarters here recently by John A. Sargent, president.

C. E. Lyon, vice president and general manager of Diamond's Chlorinated Products Division since January, 1954, will retire May 1.

Appointed to succeed him as general manager of this division is Loren P. Scoville, director of engineering for the past 10 months. Mr. Scoville's successor, in turn, is C. C. Brumbaugh, who since September, 1954, has held the position of director of research—atomic energy, alkali and electrolytic products.

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BARTLESVILLE, OKLA.—Paul S. Nunley, 52, general traffic manager of Phillips Petroleum Co., died Jan. 31 in St. Louis, Mo. He had been in the petroleum business for more than 20 years.

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